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The Journal of the Fire Protection Profession Since 1877

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APRIL, 1940

Vol. 93, No. 4

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The Journal of the Fire Protection Profession Since 1877

FRED SHEPPERD
Editor
N. N. WOLPERT, Assistant Editor.

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The Publishers

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MEMBER
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Published the tenth of each month by
CASE - SHEPPERD - MANN PUBLISHING CORPORATION
Also publishers of "Water Works Engineering" and "Municipal Sanitation"
General Offices—24 West 40th Street, New York, U. S. A.

SUBSCRIPTION PRICE
U. S. and Canada, $2 a year;
Foreign, $3; Single Copies, 25c.

KARL M. MANN, President
I. HERBERT CASE, Vice-Pres. and General Manager

ALFRED J. HOUGHTON, Eastern Representative; H. S. ESSEX, Production Manager.
CHICAGO: 6 N. Michigan Ave.—W. S. CLEVENGER, L. M. ROCHE; SAN FRANCISCO: 444 Market St.—CHARLES H. WOOLLEY, H. N. HARNER
Entered as second class matter April 15, 1929, at the Post Office at New York, N. Y., under the Act of March 3, 1879.
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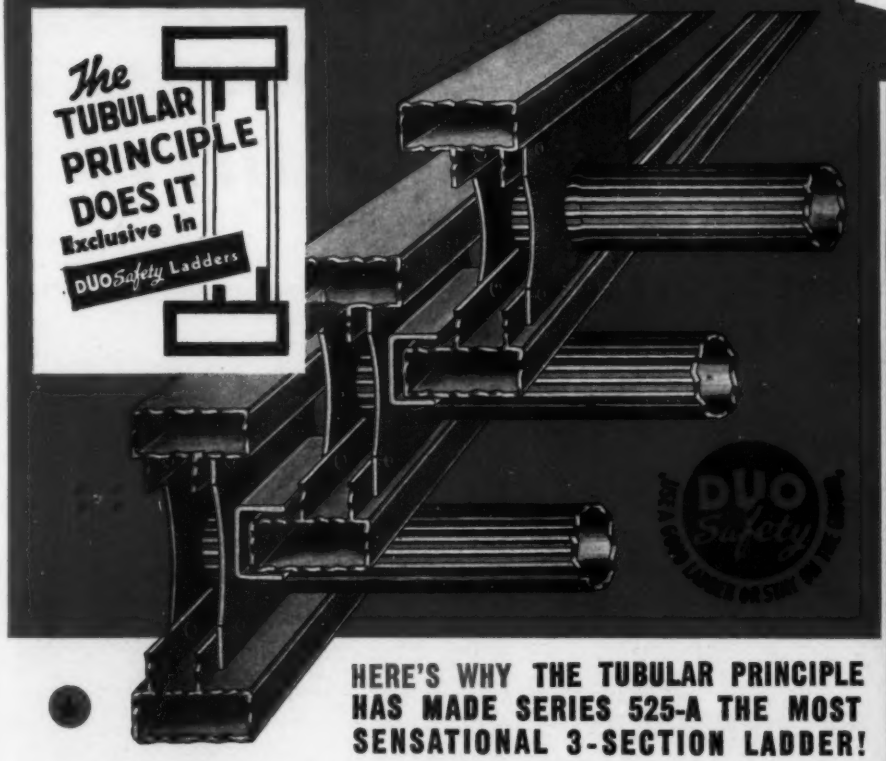

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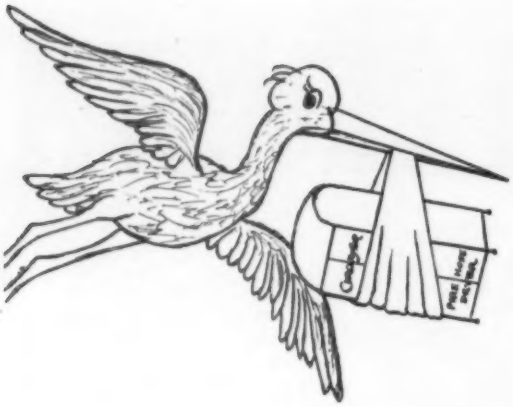

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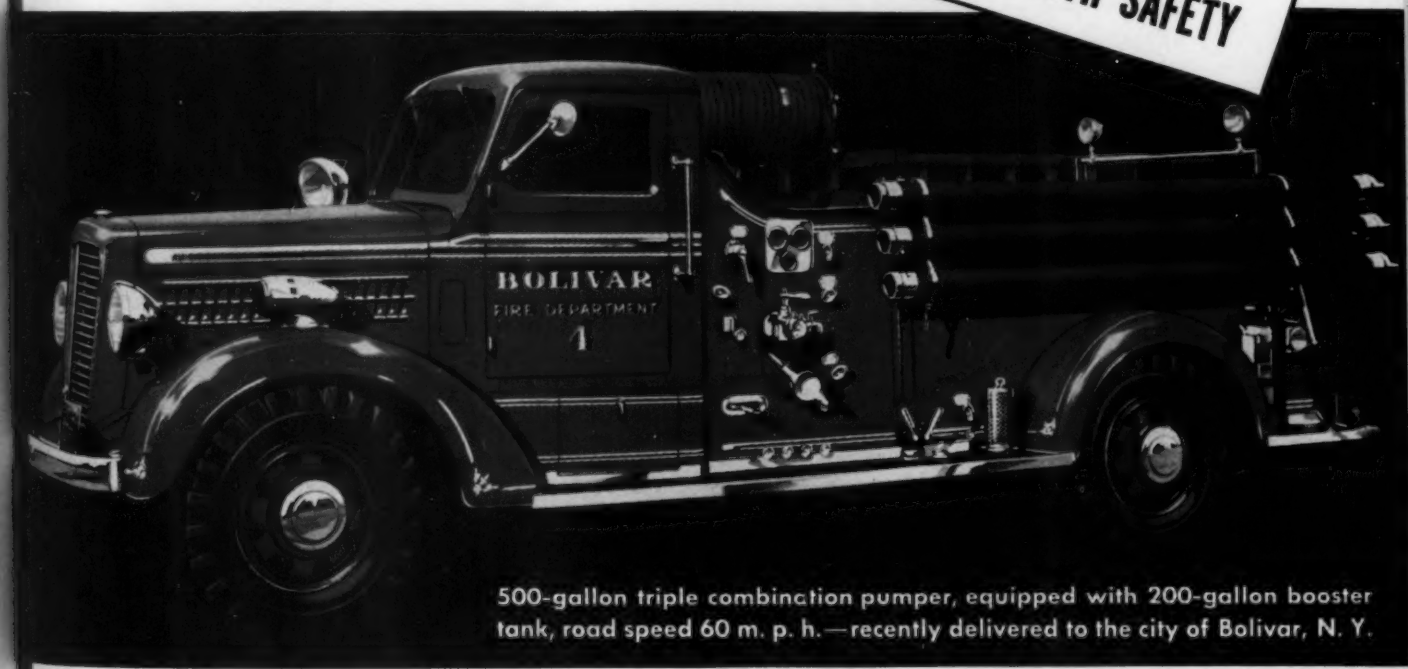

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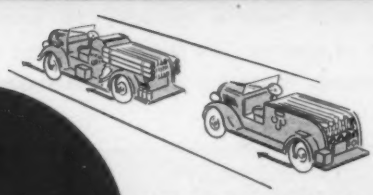

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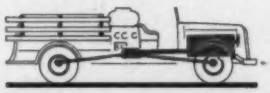

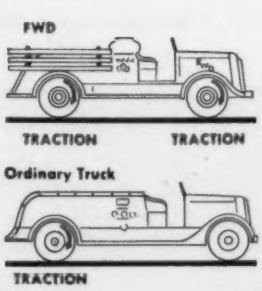

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Diaphone compressed air alarm outfits are self-contained units which constantly maintain by means of automatically controlled compressors reserve capacity to sound a number of alarms. The Diaphone is the ideal public alarm. Write for catalog and estimates.

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FIRE
ENGINEERING

APRIL, 1940 VOL. 93. NO. 4

With the Editor

Homemade Apparatus A certain few cities build fire engines in their fire department repair shops. Because they do not maintain sound accounting systems, they believe they are getting their apparatus at less cost than they would have to pay to established fire engine builders for machines of equal quality.

It wouldn't be so bad if they kept their figures to themselves, but when they release them, through the agency of municipal association publications, to the entire country, serious damage is done. The small department, as well as the large, begins to feel itself qualified to build engines and other apparatus. And many will embark on foolhardy programs of assembling fire apparatus.

Recognized builders of fire engines spend hundreds of thousands of dollars annually on research and experimental work to qualify their products for the severe service they must stand in fire departments. And yet, because it has read where other departments are building apparatus "profitably," a fire department may feel itself qualified to compete with these builders though not a dollar is spent for engineering or research work.

You won't find an established builder of fire engines mounting a 500-gallon tank, a pump, a hose body, and enough other equipment to make a 4-ton load, on a 1½-ton chassis! And yet that represents one of the pieces of apparatus recently built by a small eastern fire department.

Fire apparatus design is a highly specialized profession, and that it is a capable one is indicated by the great number of motor fire engines of standard design still working successfully after from 20 to 25 years of hard service. We wonder how many of the home-built jobs will still be in operation after an equal period of use.

And with reference to the cost of building apparatus in the fire department repair shops, we know of only one city (a large eastern one) that built a job and kept an accurate account of all costs, including labor, overhead and materials. This city could have purchased the finest fire engine built for one-half the cost of the one built in the fire department shops. Needless to add, this city is through experimenting with homemade apparatus.

Other large cities, after having had considerable experience in building their own apparatus, have abandoned the practice and resumed the purchase of factory-made machines.

Building dependable fire apparatus represents more than merely assembling a lot of units purchased here and there, and painting the job red. It includes years of experience, years of research and, on top of that, capable engineering.

Fred Sheppard

Wholesale Arson

Chips of Wood Solve Massachusetts' Amazing Arson Mystery

Told By
HOMER R. MARCHANT
Chief of Fire Department
Gloucester, Mass.

As I responded to an alarm of fire on a cold February night, I felt, as usual, that this was just a run to another fire. Little did I realize that I was being called to the scene of one of the most diabolical attempts on record at Wholesale Arson. Approaching the scene of the fire, it was observed that, one of the buildings in a group of twenty-three structures which constitutes the Hawthorne Inn Colony, at Gloucester, Massachusetts, was involved in flames; but little did I realize that all of the buildings had been prepared to be burned, and that lighted candles with tapers leading to buckets of alcohol were set in all of the buildings with but a few minutes' time left before these buildings would have been turned into a raging inferno, such as the one that was already burning. One glance told me, as I observed the building already involved, that the entire Colony might be destroyed from exposure to the present fire and, consequently, I sounded a general alarm. With the assistance of my various aides, the blazing structure was quickly surrounded by hurriedly laid hose lines and the water curtain was thrown up, not only to extinguish the fire but to protect the exposures. Just as I was breathing a sigh of relief and feeling that my men had conquered the fire, shrill shouts were heard from several directions, these coming from persons who were in the vicinity of several of the other buildings. The nature of these cries in themselves emphasized the fact that something was amiss, and upon investigating, I learned that something was wrong in several of the buildings. A quick investigation disclosed the fact that in one of these buildings there was a burning candle with taper leading to a wooden bucket which contained alcohol. A hurried survey over all of the remaining buildings disclosed similar set-ups, and it was then that this daring attempt to destroy twenty-three buildings was not only discovered, but frustrated. Valiant work on the part of my men checked the fire in the building to which we were originally called, and then scurrying from one building to another, a few incipient fires were quickly put out, and the many set-ups located. Needless to say, I promptly notified the State Fire Marshal's office, and State Fire Inspector Philip Deady was quick to respond. With the cooperation of the Fire and Police Departments, Inspector Deady directed an investigation to ascertain who was responsible for this terrible crime. Photographs were promptly taken of all the set-ups, along with a collection of buckets which were assembled from the differ-

Chief Homer R. Marchant

Scene of the First Fire and Its Location with Reference to the Reported Fires

Above: This is building No. 5 where the first of the fires to be discovered brought a general alarm. People who came to watch the fire discovered arson set-ups in the other twenty-two buildings.
Below: A map of the buildings shows the location of the buildings where the other set-ups were found as well as the part of the buildings in which the set-ups were discovered.

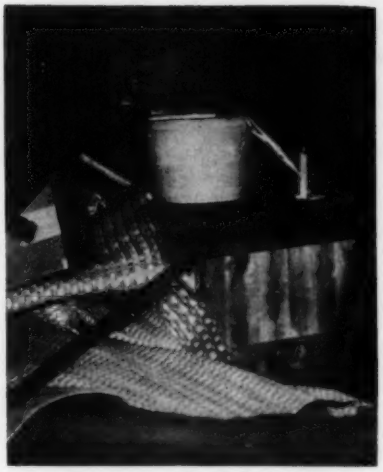
ent buildings. The accompanying photographs vividly show the vast amount of evidence.

Space will not permit the relating of all that was done in solving this mystery, but perhaps it is pertinent to dwell briefly on the chips of wood, seemingly a very insignificant piece of evidence, but massive, however, in the amazing solution of this crime.

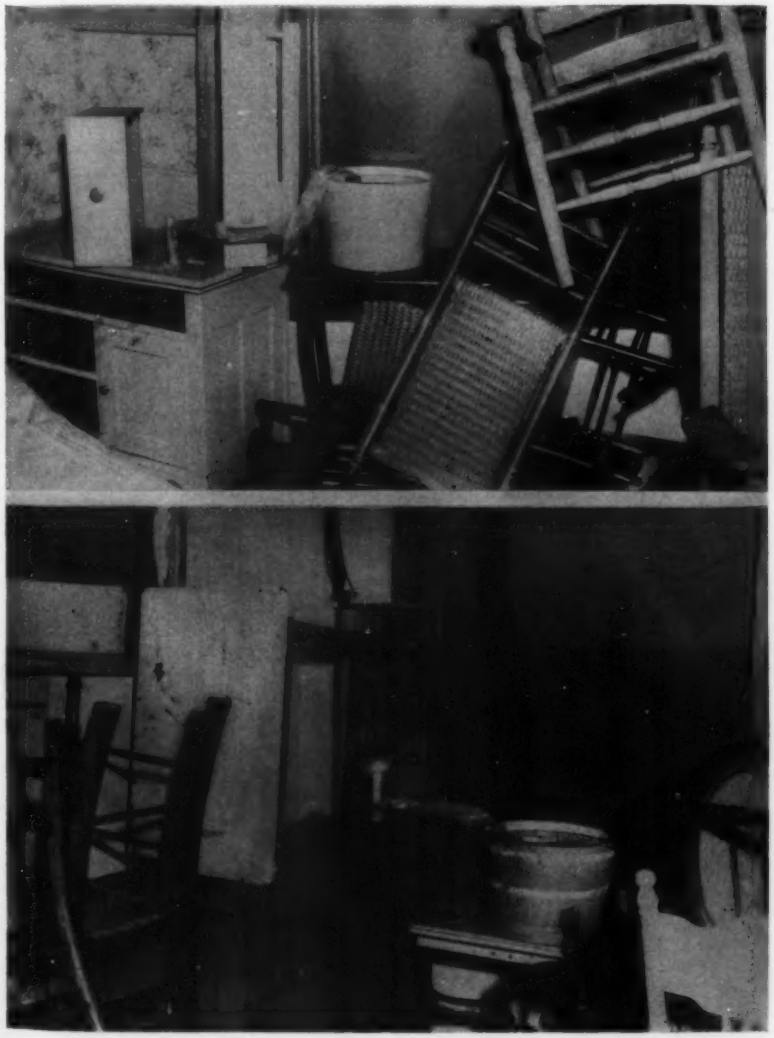
Long Preparation

Preparation for this fire was made over a period of many months. The owner of the property even went so far as to purchase small quantities of alcohol in Philadelphia, and have them shipped, labelled as paint, to Gloucester, until such time as he accumulated ninety gallons. He next purchased a large number of wooden herring buckets at a local fish supply plant, wood being selected so they would be destroyed and no evidence left. Several dozen candles were likewise purchased, and tapers fashioned from paper which was wrapped around the candles and glued to the inside of the buckets which were filled with alcohol. The perpetrator of the crime, in his endeavor to make sure that nothing went amiss, bored holes in the floors and tops of bureaus, in order to insert the candles therein to make sure that these candles would not tip over and cause a fire too soon, and thus not allow sufficient lapse of time for the fire maker to escape before the fire would break out.

Such precaution proved the perpetrator's downfall, because in boring a hole through the top of the bureau, the chips of wood, which came from the borings made by a common bit, were left on top of one of the bureaus. When the bit went through the wood, other chips of wood were deposited in the drawer of the bureau.



Another Arson Set-Up Discovered in One of the Buildings

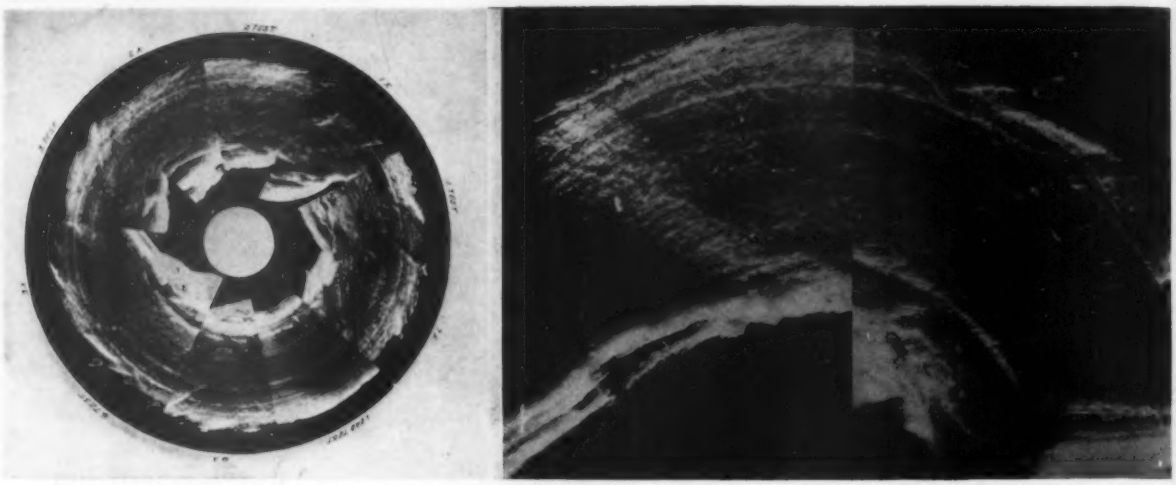


Arson Set-Ups

The wooden buckets are filled with alcohol. One end of the paper taper which is treated with powder is dipped in the alcohol; the other end is tied to the burning candle. The candle was still burning when the photographs were taken.

Chips Become Evidence

Inspector Deady, one of the Fire Marshal's investigators, gathered up these chips, because it is the practice of the Fire Marshal's investigators to overlook nothing and to take everything that may be evidence. This precaution and thoroughness on the part of the investigator paid a good dividend, because later, in the course of the investigation, the authorities secured possession of a bit which was traced to the owner of the property, and it could be positively proven that he not only had this bit in his possession before, but also after, the fire. The bit fitted the holes, but any bit that size would likewise fit such holes. Now, it became incumbent upon the investigator to prove that this bit made the holes. In the laboratory of the State Police, which is under the direction of Dr. Joseph Walker, Lieutenant of the State Police, another hole was bored in the top of the bureau, and then the shavings from that hole were compared with the shavings found at the time of the fire. They were found to possess identical marks and that every hole made by this particular bit had these telltale characteristics which were peculiar to this one bit. After two weeks and three days, the laboratory crew reconstructed the holes by manipulating the chips of wood into their proper position, and proved conclusively that the bit not only made the hole in the bureau found at the time of the fire,



The Method Used in Solving the Case

Left: A composite photograph of the reconstructed hole showing the chip that came from the scene of the fire (x) and test borings. The lead test was made at the laboratory of the State Police to secure the markings made by the wood bit. Right: The chip on the left part of this picture taken from the scene of the fire, and the test chip on the left were proven to have been made by the same wood bit.

but likewise corresponded with the test holes. This was all scientifically proven and nothing left to guess work.

Inspector Deady, of course, unearthed many other pieces of evidence, too numerous to relate here, and the case became so water-tight that there was no difficulty in securing an indictment against the owner; but after his arrest, he tried to cover up his tracks by writing letters to Philadelphia in an endeavor to persuade the people who sold the alcohol to him to insist that they sold paint. He likewise tried to cover up the fact that he placed $165,000 additional insurance over and above the amount to cover the mortgage a few weeks before the fire, and it seemed that every move he made only tightened the chain of evidence which had been so tightly forged around him.

Arsonist Closes Case

And then, this most exciting and mysterious case was terminated by a climax which, while robbing the Commonwealth of the chance to bring the perpetrator of this crime to justice, however brought a sudden end to the case; that being, that the defendant charged with the crime committed suicide by slashing his throat at his home in Philadelphia. This was indeed an attempt at Wholesale Arson, planned over a period of months, well executed in many respects, but in spite of the elaborate plans and the general scheme of a hope that all evidence would be destroyed, the few chips of wood led to the amazing solution.

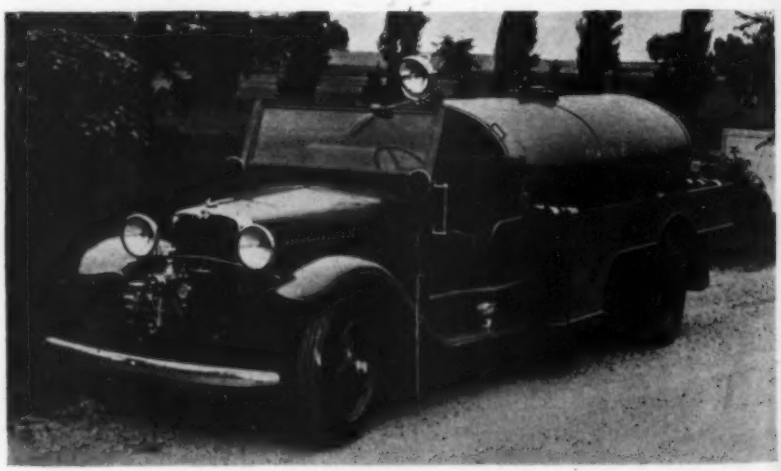
I have encountered a number of arson cases in my years of experience, and I have found that usually the smallest piece of evidence turns out to be the most important in the final solution of a case. So, as a Fire Chief, I urge attention to minute details; that the Fire Department discover the evidence of incendiarism, preserve it so that it may be turned over to the prosecuting authorities, such as the State Fire Marshal's office which has operated so successfully in Massachusetts, and has brought many guilty persons to the Bar of Justice.

Fire Threatens Apartments

A six-story apartment house in Watertown, N. Y., became involved in a fire which broke out in a cafe, located on the ground floor of the building. The restaurant had entrances to two streets. An explosion, which followed shortly after the fire started, blew out both doors and caused fires in six of the sixty-eight apartments in the building. The fire might have been the most disastrous fire ever experienced locally were it not for the fact that the building was constructed with fire walls.

The entire city's fire apparatus was summoned. The department's first act was to remove the people from the apartments. The alarm came in just at the changing time of the shifts, so that nearly every man of both shifts was present. The smoke was a hindrance both to the rescuers and the men fighting the fire, but the building was soon ventilated by the ladder crews.

Most of the damage was confined to the restaurant, which was completely destroyed. The damage to the apartments was limited to window casings, curtains, and some furniture. The estimated loss was about $25,000.



Tank Truck for Oswego, Ill.

A 1,000 gallon capacity pumper-tank truck has been built and placed into service in the Oswego Fire Protection District, Oswego, Ill. This truck carries a 250 g.p.m. Barton Pump on the front, thirty feet of three-inch hard suction hose, several lengths of 2½- to 1½-inch hose, and some booster hose. This unit will act as a second truck to follow a smaller truck to rural fires.

NEW YORK FIRE DEPARTMENT'S OLD PENSION SYSTEM REVISED

New Plan, Which Provides That Firemen Pay Part of the Cost of Retirement, Replaces Old System

By CLARENCE E. MEEK

THE New York Fire Department retirement and pension system, which had its beginning when Chapter 756 of the Laws of 1866 created the Metropolitan Fire Department Relief Fund, and which had remained practically unchanged since 1894, has been completely revised by an amendment to the Administrative Code of the City of New York which became effective on April 1, 1940. It is interesting to note that the first pension law as set up in 1866, the year following establishment of the paid department, provided payments "to each person permanently disabled while in actual performance of any duty, assigned to him by said department, the sum of $20.00 per month for the term of his natural life; to each person who shall become superannuated after a service of ten years, an annuity of $250.00, payable $62.50 each quarter."

Chapter 73 of the Laws of 1894 established the pension system which has just been revised and which made it mandatory to retire on not less than half pay "any member who has served twenty years and who makes application for such retirement" without requiring any contribution by the member.

Old System Too Liberal

Up to April 1st of this year, when the new law took effect, the members of the Fire Department enjoyed, without any contribution of their own, the advantages of a system more liberal than the pension benefits of their brothers of the Police Department. Policemen have had to contribute 2% of their salaries and serve twenty-five years before being eligible to voluntary service retirement. The first-grade privates of both Departments receive the same annual salary—$3,000.00—but the firemen reach first grade two years earlier than the members of the Police Force.

There has been more or less active agitation for many years for a revision of the pension laws affecting the Uniformed Forces. The Fire Department system has been the special target for attacks by different civic groups. This agitation for pension reform became insistent when a clause was slipped into Amendment No. 1 of the State Constitution in 1938, making pension obligations of the City a contractual liability after July 1, 1940. It has been claimed that this clause adds about $400,000,000 to the City's debt and would bankrupt the city unless the pension systems were revised.

New System Studied

Following the adoption of this amendment to the State Constitution, Mayor LaGuardia inaugurated a series of conferences with the various line organizations of the Fire and Police Departments with the object of working out new sound pension systems which would put firemen and policemen on an equal footing, and which would be acceptable to the Uniformed Forces. The results of these conferences were outlined in letters addressed by the Mayor to the line organizations, on November 14, 1939, setting forth the agreed upon plan and stating the understanding that the plan would be submitted to the members of the Uniformed Forces for a referendum.

Under this plan, the existing pension systems would be closed to new members, and the new entrants into the Departments would become members of the New York City Employees Retirement System. It has been estimated that these new members would pay about 8% of their salaries into the system.

Proposed Plan

Briefly, the proposed plan provided:

1. All members of the Uniformed Force now in the service may elect to retire after 20 or 25 years service. Those electing the 25-year service retirement will pay 5%.
2. New entrants into the Departments will pay on an actuarial basis 45% of the cost of retirement, the city assuming 55%, and the men having the option of selecting a 20 or 25 year retirement period, the percentage payments in either case being on an actuarial basis of 45% for the men and 55% for the city.

Opposition to Plan

While civil service publications were attacking the proposed plan as a pay cut, and some civic organizations and newspapers were charging that the new system, as suggested, would be unbalanced according to insurance tables and would be far more expensive than any other City employees' Pension system, a referendum vote was taken in the departments to ascertain the sentiment of the police and firemen. In the referendum on the proposed new system, the Uniformed Force of the Fire Department voted 7811 for and 1178 against the plan. About 2000 firemen did not vote. The Police also voted heavily in favor of the revision. The Mayor then appointed a committee, which included members of the Uniformed Forces, to draft legislation to effect the reforms approved by the referendum. After public hearings on the bills and sharp disputes and arguments in the City Council, the bills were adopted by unanimous vote, and became law on April 1st.

As applied to the men appointed to the Department before April 1st the new law provides for (a) half-pay pension after 20 or 25 years, as elected by the member; (b) for total disability incurred in line of duty retirement on ¾ pay; (c) for total disability after ten years' service but not in line of duty, one-half pay; (d) for partial disability not incurred in line of duty after ten years' service the member may be retired on half pay; (e) for partial disability not incurred in line of duty before ten years' service the member may be retired on one-third pay.

Instead of a sole trustee, as before, the new law provides for a Board of Trustees to administer the funds. As an inducement to men to stay in the Department after completion of their 20 or 25 year term of service, $50.00 a year will be added to the pension for each year of additional service up to $500.00 additional amount.

Basis of Contribution

The contribution of a new member, appointed after April 1st, shall be upon the basis of the proportion of his compensation, which, when deducted from his pay check prior to his eligibility for retirement and accumulated at regular interest, shall be computed to provide an annuity equal to 45/55ths of the pension payable to him by the city. The retirement allowance shall consist of an annuity actuarily equivalent to accumulated deductions at time of retirement, and a pension equal to 55% of 1/40th or 1/50th (for 20 or 25 years service) of his final compensation multiplied by not to exceed twenty or twenty-five years service, as the case may be, plus 55% of 1/60th of his final compensation multiplied by the number of years of service in excess of twenty or twenty-five years.

Provision for Widow

On death of a member (not retired) the amount of accumulated deductions, plus six months' salary, shall be paid to his beneficiary. In case of death on duty, a pension of one-half of salary shall be paid to the widow, child, or dependent parents. A member shall be retired for ordinary disability, after examination by the Medical Board proves he is unfit for duty, on a pension based on years of service, but not less than one-quarter of his salary. If the Medical Board shows that a member is unfit for service because of injury incurred in line of duty, he shall receive a pension equal to three-quarters of his final salary. Dependent widow, children, or parents shall receive $600.000 per year until the widow remarries or until children reach 18 years of age.

Vacancies to Be Filled

For several months past, because of pending pension revision, no appointments have been made to the Police and Fire Departments, but with the new law in effect, it is expected that both services will be brought up to full quota strength. The Police Department with an authorized strength of about 19,000 men is short approximately 2,000 patrolmen. The Fire Department quota is 10,895 men, with about 200 vacancies.

Correction

On page 121 of the March issue of FIRE ENGINEERING, the answer to the twenty-second question of the Promotional Study Course should be 523 gallons instead of 5.23 gallons.

RULES FOR PRIVATE CARRIERS MAY REDUCE CAR FIRE ALARMS

Federal Regulation of Private Carriers May Result in Fire Extinguishers on Each Truck

LENGTHY hearings before the Interstate Commerce Commission last year led to the conclusion that there is a need for Federal regulation of motor vehicles engaged in transportating property by private carriers. Present regulations apply only to common and contract motor carriers engaged in interstate commerce.

Although the I.C.C. has made no decision on this conclusion, there is hope in the situation for an improvement in the motor vehicle fire problem. One of the items of safety equipment required for common and contract carriers is a fire extinguisher, and there is every reason to assume that a similar regulation will be enacted for private carriers.

Large Number Affected

It is to be expected, when and if the regulations for private carriers are prescribed, between 750,000 and 1,000,000 commercial trucks of this class in interstate commerce will be required immediately to carry fire extinguishers, and, ultimately, practically all of the three million or more private carrier trucks will come under similar regulations by the various states.

Survey Conducted

The extent of the motor vehicle fire problem was discovered recently as the result of a survey conducted by FIRE ENGINEERING in collaboration with Safety Research Institute. This survey indicated that 11.53 per cent of all legitimate fire alarms in municipalities are for motor vehicle fires. As more and more vehicles of all classes are equipped with fire extinguishers of suitable types, the less acute this problem will become.

In 1937, according to the record of the I.C.C. hearings, there were about four million commercial cars engaged in transporting property in the United States, and of this number, it is estimated about three million were being operated by private carriers. However, only about twenty-five per cent of the private carriers crossed state lines and therefore may be subject to I.C.C. jurisdiction.

States Will Cooperate

Experience under the existing regulations for common and contract carriers indicates that many of the states are willing to cooperate with the Federal government in making highways and motor carriers safer. It is only five years, as of 1935, that the Motor Carrier Act gave the Commission authority to regulate common and contract carriers, and already thirty-six states have adopted all or part of the I.C.C. regulations. The same experience may be anticipated if regulations are prescribed for private carriers, but at a more rapid rate, as the states are more closely linked today in the highway safety movement.

For lack of adequate records it is difficult to learn what classes of motor vehicles are involved in fires. The Fire Departments of four cities have offered their records for 1939 and these probably approximate the national averages. These records follow:

City	No. of Car Alarms	Common Carriers	Private Carriers	Tank Trucks	Buses	Pleasure Cars
Albany, N. Y.	144	6	11	1	1	125
Buffalo, N. Y.	434	30	44	2	3	355
Newark, N. J.	620	58	61	3	19	448
Evansville, Ind.	156	15	11	1	3	116

Celebrates Sixtieth Year of Service

Chief William P. Weeks of the Battle Creek, Mich., Fire Department received a surprise on completion of sixty years of service, when the City Commission and members of the Department staged a reception for him. He was presented with a gold badge from the city, and a number of gifts from his men.

The affair was in recognition of service that Chief Weeks has rendered the city, starting back in 1880 when he joined the department. He has been Chief since 1892.

Tar Makes Smokey Fire at Kearney

A pipe carrying naphthalene, an inflammable hydrocarbon and one of the constituents of coal tar, burst and started a fire in a Kearney, N. J., plant that sent up a column of smoke so dense that it looked like a thunder head from lower New York City. A westerly wind carried the smoke and fragments of charred tar paper over lower Manhattan and Brooklyn.

When the pipe burst, blazing naphthalene was sprayed over the interior of the chemical plant and streamed out of the doorways. Before long, the fire had spread to five thousand drums of the chemical, each containing from fifty to eighty gallons of the fluid. Upon the arrival of trucks from the Kearney and Jersey City Fire Departments, lines were run from the Hackensack River, about 100 yards away, and at one time about forty hose lines were used.

Traffic on a nearby highway was stopped, causing congestion on other roads. The unofficial damage was estimated at about $250,000.

Fireworks Bill Passed

A fireworks bill, which bans the use of fireworks by an individual, or their sale in New York State, has passed both the Assembly and the Senate of the New York Legislature. The bill, which will not become effective until August 1, provides that only licensed displays of fireworks may be given by municipalities. Opposition to the bill stated that such a ban on fireworks would put many people out of work.

So far there are twenty-one states that have adopted laws to regulate the sale of fireworks. Local ordinances have been passed but have not been very successful because, under local regulation, fireworks could still be obtained on the outskirts of the village. This new bill supersedes local ordinances and permits municipalities to have fireworks displays only after obtaining a special license. A fine of $100 is imposed for violation of the law.

Billows of Smoke That Filled the Sky Rising from the $250,000 Kearney, N. J., Fire

DIESEL-POWERED FIRE TRUCK IN SERVICE AT COLUMBUS, IND.

First Diesel Operated Fire Engine Built Has 175 Horsepower

By Chief James D. Kailor
Columbus, Ind.

OUR new diesel fire truck, first in the United States, was built by The New Stutz Fire Apparatus Company, Inc., Hartford City, Indiana. The specially built unit is a Model "F-D" triple combination pumper equipped with a Cummins diesel. The diesel is a Model LH-600, 6 cylinder, bore 4⅞", stroke 6", with a piston displacement of 672 cubic inches. At 1800 rpm, 150 hp is developed and at 2200 rpm, 175 hp is developed.

The transmission used provides five speeds forward and two reverse. Wheel base of the truck is 171 inches, width 96 inches. Brakes are four wheel hydraulic equipped with a booster. The specially built chassis and hose body has capacity for 1200 feet of 2½" double jacket fire hose and 300 feet of 1½" leader line fire hose.

Positive Displacement Pump

The pump is a Hale positive displacement geared rotary cam type, with a displacement of 1.634 GPR. Guaranteed pump capacity at normal engine speed with a lift of 10 feet is 1,000 gallons at a pressure of 120 pounds, 500 gallons at 200 pounds pressure and 333 gallons at 250 pound pressure. A 100-gallon booster tank connected to the pump is equipped with a shut-off valve; 200 feet of one-inch hose with a shut-off valve is connected to the pump at all times and is carried on a reel in back of the seat over the booster tank.

The alarm signals include a ten-inch locomotive bell, a large Federal siren with a red flasher and an extra large red light mounted on the hood.

The bare chassis weighs 11,000 pounds. Loaded with all tanks full and all equipment in place, the unit weighs 17,995 pounds.

The shatter proof glass windshield is equipped with twin electric wipers. Top speed of the unit is sixty-five mph.

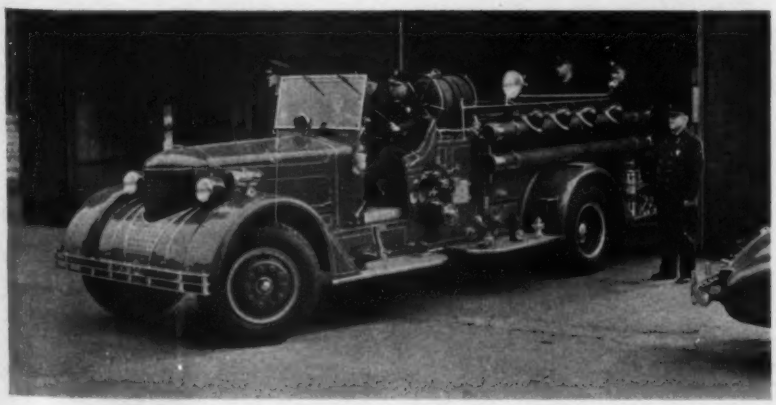
Underwriters' tests were conducted at Blue Water Lake, Montpelier, Indiana. Lift was 5 feet. The first test employed two 50-foot lengths of 2½ inch C. R. L. hose siamesed into the nozzle with a two-inch tip. The engine to pump gear ratio used was 2.5 to 1. The diesel operated 1,630 rpm. and the pump, 652 rpm. 1,012 gallons per minute were discharged at 124 pounds net pressure for 6 hours.

The second test used 50 feet of 2½-inch C. R. L. hose into nozzle with a 1½-inch tip; discharge gate throttled. Using a gear ratio of 4.425 to 1, the diesel was operated at 1,664 rpm. and the pump 376 rpm. At a net pressure of 206 pounds, 519 gpm. were discharged for three hours.

The third test used 50 feet of 2½-inch C. R. L. hose into nozzle with a 1⅛-inch tip; discharge gate throttled. As in the second test, the 4.425 to 1 gear ratio was used. The diesel operated at 1,180 rpm. and the pump 267 rpm. At a net pressure of 255 pounds, 339 gallons per minute were discharged for three hours.

The diesel is started with two 12-volt batteries. It starts easily and quickly in any kind of weather. The engine is a full diesel, starting on diesel fuel and employs no auxiliary "helping" units.

The diesel burned 53 gallons of four cent fuel oil for the 12-hour run and pumped 1,140 gpm. The diesel burns standard No. 3 furnace fuel oil.



The New Cummins Diesel Powered Fire Truck in Service in Columbus, Ind.

Megaphone Presented to Chief Bender

In appreciation of the fine work accomplished by the Saginaw, Mich., Fire Department in lowering the fire loss during the ten year period from 1930 to 1940, the Saginaw Association of Insurance Agents presented Fire Chief Bender with a silver megaphone, the type used by Chiefs in directing fire fighting years ago. The horn is silver plated on the outside, gold plated on the inside, and bears a suitable inscription.

During the thirties, the fire loss in Saginaw was about $1,628,906, as compared with $3,242,458 in the twenties.

A. W. Link Appointed Chief

After twenty-seven years as a fireman, Amos W. Link attained the rank of Chief of the Perry N. Y. Fire Department, which is a volunteer organization of seventy men. The department also offers protection to the rural district which covers fifty-two square miles, including 120 miles of roads. The apparatus consists of three trucks; one 750-gallon pumper, one 350 gallon pumper with booster tanks and foam generators, and one combination ladder, hose, and booster tank truck. The department has used the foam with great success on oil, tar, and gasoline fires.

Chief Amos W. Link

Seven Youths Sentenced for Fires

One of the most baffling incendiary rings in the history of the State of Massachusetts was broken up with arrest and sentencing of seven Stoneham, Mass., youths between the ages of sixteen and twenty-three years. The group worked either collectively or individually in setting off about fourteen fires, which resulted in a total fire damage of over $75,000.

Some of the early fires were set for the thrill of seeing the fire. Soon the group graduated to dropping matches into waste paper barrels, and finally to starting fires in vacant buildings. Several different methods of touch-offs were used. Some of them proved failures. Gasoline was frequently used. One of the fires enumerated in the indictments was the $35,000 blaze which swept the Bell Block, Stoneham, during the St. Valentine's Day blizzard.

The sentences ranged from 2½ years in the House of Correction to three or four years in the State Prison.

Demonstration Unit and Personnel

FURTHER PROGRESS MADE IN FIREMEN'S TRAINING PROGRAM

New Truck to Serve as a Mobile School Unit in Massachusetts

THROUGH the efforts of Assistant Director, M. Norcross Stratton of the Division of Vocational Education, Massachusetts Department of Education, Director R. O. Small, Commissioner Downey, the Committee of Fire Chiefs, and others, a new truck has been fully equipped and is being used as a traveling school for the State-wide program of Firemen training. This program is being conducted by the Massachusetts Department of Education, Vocational Division. The truck was started in service from the Brookline Fire Department's training center at the January meeting of the Massachusetts Fire Department Instructors' Association.

Modern Equipment

The new truck has been fitted out with up-to-date extinguishers, masks, spray nozzles, flood lights, and other fire-fighting accessories, which were all donated or loaned by concerns interested in this field of training, to add effectiveness to a program which has already won favorable national rating. Through the cooperation of Chief Allen, the truck is temporarily housed in Brookline where the equipment is being installed. Only up-to-date tools and appliances are to be included in the permanent equipment. A committee of Chiefs will consider and approve all equipment to be carried on the truck.

An Assistant Supervisor of Teacher-Training, who will specialize in the field of firemen training and other public service occupations, has been appointed to assist Mr. Stratton in the firemen training program. A competitive examination for ths position was given. The successful candidate, Mr. Louis J. Gaetani, has served ten years as a trade school instructor and for several years as a special teacher-training instructor and conference leader. He joined the Vocational Division staff on February 1, 1940.

The Advisory Committee of the Massachusetts Fire Chiefs Club continues its interest in and its support of the training school program. There are now forty-eight trained drillmasters who give their time and energy in conducting classes and assisting with details of the work. The Fire Marshal's office, the Forest Warden Service, the Insurance Exchanges, and many representatives from special fields of work related to the fire service have contributed to the program.

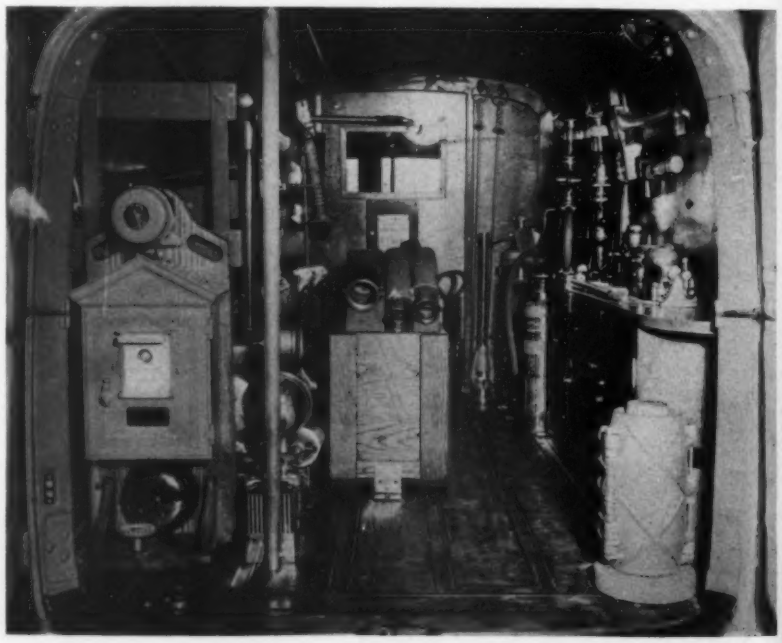
In 1933, the Massachusetts Fire Chiefs Club adopted a plan to provide fundamental training for as many as possible of the firemen in Massachusetts. A State-wide program in zone areas was established, organized, and administered by the Vocational Division, Massachusetts State Department of Education, advised by a committee of fire chiefs and fire prevention officials. Drill instructors from all parts of the state are detailed by their respective chiefs to serve on the zone school staff. This group of men meet regularly with supervisors from the Department of Education to deal with organization and teaching problems arising in the work of the zone schools.

State Department officials and chiefs interested in the program have been asked to assist in organizing educational programs in Vermont and Maine. Two classes were conducted in Vermont in 1939 by Massachusetts drillmasters. We have been requested to go to Maine later this month to stimulate the program in that state.

A plan for maximum use of the "Demonstration Unit," as the truck is called, is being worked out. The zone school organization and plan includes:

1. Training of local drill instructors in teaching techniques as applied to firemen training enterprises. (This is done in groups for men assigned by Chiefs of the several local departments as drill instructors for the respective departments.)
2. Zone school center classes train firemen assigned by their Chiefs to such classes from towns within the zone areas. Instruction in those zone classes is related to practical fire-fighting evolutions and technical problems. The instructors are officers of permanent departments who are members of our zone school staff of instructors.
3. Mutual aid area classes train groups

(*Continued on page* 173)



Interior View of Unit Showing Some of the Equipment

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

STARTING FIRE APPARATUS IN COLD WEATHER

MOTORISTS know the difficulties of starting the motors in their automobiles during cold weather. The motor simply does not respond readily, and operation becomes annoying.

Just imagine how important this experience becomes when the factor of time is added.

Regardless of weather conditions, the motors of fire apparatus must start, proverbially "with the gun." As delays add dangers to life and increase the fire losses, practices must be followed that will eliminate these lost minutes.

The round table discussion in this issue is based on the problem of cold weather starting. The question in full is printed in the box on this page, while in the box on the next page is the problem that will be presented in the following issue.

Discussion of the Question

Harold E. Warner, Chief, Amherst, Mass.: We do not experience any difficulty in starting our apparatus in cold weather. Our apparatus floor is heated, not to room temperature, but reasonably warm. We use a high test gasoline to insure quick starting. A mixture of fifty percent 70/72 and fifty percent ordinary gasoline has proved successful.

W. J. Gates, Chief, Glens Falls, N. Y.: We have never had any difficulty in starting engines in cold weather, because our apparatus room is always kept warm. The batteries are tested daily, both summer and winter, and are never allowed to fall below 1.280 specific gravity. In our late type pumps, we use Freezone in the radiators. In our older machines we keep the water circulating while on the job to prevent it from freezing.

H. W. Farnsworth, Chief, Chippewa Falls, Wis.: We have never had any difficulty in starting our motors in cold weather as our station is heated. While out on a job, we let the motors idle.

Burr Hamilton, Chief, Marion, Ind.: We have no trouble starting our apparatus in the winter as our engine houses are well heated and we use one grade of gasoline that we have found to be very satisfactory for fire department use.

H. J. Conlin, Chief, Leavenworth, Kan.: We have no difficulty in starting engines in cold weather as our apparatus room is always warm.

Allen L. Palmer, Chief, Claremont, N. H. Our apparatus room is kept at a temperature of from sixty-five to seventy degrees. We, therefore, do not have any trouble starting our trucks in cold weather.

Harry L. Ridout, Chief, Muskegon Heights, Mich.: We have no difficulty in starting engines in cold weather. Our apparatus room is heated with steam radiators and an average temperature of at least seventy degrees is maintained at all times.

Robert H. Miller, Chief, Port Jarvis, N. Y.: We have the radiators of two of our trucks filled with alcohol and the crank cases filled with a winter oil. These trucks are only used for out-of-town calls.

Sam Cramer, Chief, Dixon, Ill.: Our apparatus room is heated. Nevertheless, I find it good practice to run the motor for a short time before going out in extreme cold weather, as the engines give better performance if warmed up a bit.

E. A. Logan, Chief, Shrewsbury, Mass.: Nearly every municipality has electricity available in the quarters used for storing fire apparatus. There is now on the market a practical steam radiator heated by plugging into any socket or receptable. This radiator uses 990 watts an hour and two quarts of water will last 200 hours of continual heating or one month of general average use. The radiator has 18½ feet of circulation and will keep a room twelve feet square well above forty degrees. It is possible to heat with some of these for as low as one cent an hour.

William H. Wayand, Chief, Scotia, N. Y.: Our apparatus room is heated during cold weather at an average temperature of seventy degrees. Therefore, we have experienced no trouble in starting motors.

HERE IS THE PROBLEM

Have you had any difficulty in starting engines in cold weather?

If not, what method do you employ for keeping fire apparatus engines warm in cold weather, if apparatus room is not kept warm?

Has this method proved satisfactory?

Fred W. Cordes, Chief, Maplewood, N. J.: Our fire houses are kept at seventy-two degrees temperature. The apparatus are run twice daily.

E. V. Stone, Chief, Ludlow, Mass.: We have never had any difficulty in starting engines in cold weather, as our fire station is steam heated.

C. E. Underwood, Manistique, Mich.: We have no difficulty in starting motors in cold weather as our building is heated with a stoker furnace.

Motors are started every morning and run for five minutes. In severe weather they are kept covered with a heavy blanket. This keeps them warm for a long time.

In twenty years' use of motor apparatus we have never had a motor fail to start because of the cold.

Michael W. Lawton, Chief, Middletown, Conn.: We have never had any trouble in starting our engines in cold weather. We keep the apparatus room up to sixty-five degrees at all times.

When we arrive at the scene of the fire, the motors are kept running whether we are using the pump or not. We also cover the radiator with a blanket.

George E. Barber, Chief, Ludington, Mich.: We heat the room in which the trucks are housed and have had no difficulty in starting them.

A. E. Homann, Chief, LaPorte, Ind.: Our fire apparatus is kept in heated stations at seventy-two degrees. We use ethyl gasoline only.

Henry Hoebeke, Chief, Grand Haven, Mich.: We do not have any difficulty in starting our engines in cold weather. Our station is heated with steam heat and at no time does the temperature go below seventy-two degrees.

Irvin Johnson, Chief, Ocean City, N. J.: We have no trouble in starting motors in cold weather. We have our apparatus housed in warm buildings and keep the electrical systems in top shape at all times.

We have had difficulty in starting motors of the apparatus during the months of June and July. At the seashore, the nights are very damp and the doors of the engine room are left open for ventilation twenty-four hours a day during the summer months. The only way we can check on conditions during these months is to test the motors each morning, and if anything is found wrong, repairs are made at once.

C. E. Neal, Acting Chief, Livingston, Mont.: We have had no trouble in starting our fire engines because they are kept in a room which is heated and which never gets below fifty degrees in this room.

When we are at a fire, we keep the engine running. We have fought fires

when the temperature was twenty to thirty degrees below zero and have had no trouble at all.

R. George Woods, Chief, Englewood, Col.: As we have three radiators in the truck room, we have had no difficulty in starting our motors.

William Hansen, Chief, Manistee, Mich.: Our apparatus room is kept heated. We also use a high-test gasoline.

Frank P. Walsh, Chief, Hackensack, N. J.: We have no difficulty in starting the apparatus in the winter as all fire stations are heated.

Willis F. Hough, Chief, Lebanon, N. H.: We have had no trouble in starting engines in cold weather as our apparatus room is kept heated.

Stuart M. Potter, Chief, Greenwich, Conn.: We have had no difficulty as all of our apparatus is housed in heated buildings.

L. C. Brookins, Chief, Norwich, N. Y.: We have no trouble in starting as our fire apparatus room is kept warm at all times.

Theodore Deslauriers, Chief, Ware, Mass.: We maintain a temperature of sixty-five degrees at all times on our apparatus floor. This has proven very satisfactory.

Gordon G. Cushing, Chief, Rochester, N. H.: We have no difficulty in starting our motors as our station is well heated.

Henry Zimmerman, Chief, Bellevue, O.: We have no trouble in starting our motors as our apparatus room is heated.

John Mosiman, Chief, Falls City, Neb.: Our apparatus room is kept warm so we have had no difficulty in starting our motors.

A. T. Johns, Chief, St. Marys, Ohio: We maintain a temperature of seventy-five degrees in our apparatus room, so we have no trouble in starting motors.

* * *

Answer to Previous Question

The following reply was received in answer to a previous question on fighting brush and grass fires, and the equipment used:

A. Brown, Chief, Birmingham, Ala.: We have one piece of apparatus which we use for grass and brush fires.

We took the back seat out of an old Buick sedan, a former chief's car, and put in three 55-gallon oil drums connected together, and carrying 200 feet of ¾-inch hose. We have a Panama pump mounted on the motor. The advantage of this is that the pump can be used while the car is moving, so we can cover considerable ground without having to drag line.

We carry a hydrant connection with about fifteen feet of ¾-inch hose attached, so we can refill from hydrants.

This car has also come in handy at fires outside of city limits where no hydrants are available.

It was put into service at a cost of about $300 including the value of the car, cost of pump, and a new set of tires.

Frank W. Wallen, Chief, Olean, N. Y.: We use the five-gallon type Indian pumps and find them very effective in fighting brush fires.

We have a forest ranger stationed here and we call him as soon as we get a call for such figures. He has a truck equipped with twenty-four pumps, and picks and shovels, and a crew of men. We don't get many of these calls.

T. P. Coe, Chief, Tallahassee, Fla.: We do not have many brush fires. Most of ours occur in light broom sage or thin dead grass. We mostly whip it out or use a booster tank.

The following reply is in answer to a previous question on the use of fog nozzles:

Fred F. Knight, Chief, North Tonawanda, N. Y.: Our department has used fog nozzles for several years. We use them on all booster lines and each engine has one for its 2½-inch line.

A few years ago we had a tank car with gasoline burn, and we put the fire out with two fog nozzles. We used them for tar tanks and boat fires, and for several other fires. No fire department, large or small, should be without them.

* * *

HERE IS THE PROBLEM FOR THE NEXT ISSUE

Do you believe the day assignment of apparatus on box cells in residential and outlying business districts should (a) equal the night assignment, or (b) be less than the night assignment? Why?

What are your company assignments for day and night box calls for the districts mentioned above?

Answers to Previous Questions

The following replies were received in answer to a previous question on the charging of batteries of fire apparatus:

F. A. Murray, Chief, Teaneck, N. J.: All our apparatus is equipped with new type Chargicators mounted on the steering post. This instrument has a graduated scale of colors with a meter indicator that shows the physical condition of battery cell readings. This device is mounted on the steering post and the drivers of apparatus are instructed to note the condition of battery, and when motors are started for morning and night tests. Any change in the meter reading is immediately reported to the officer and entered in the company journal.

In addition to the daily Chargicator reading, a hydrometer test is made each Monday and Thursday. All batteries are given a recharge when readings drop below 1.225 specific gravity. We do not use trickle chargers. All companies are equipped with the Tungar wall type charger. It is possible to charge four batteries at one time with this type charger. It operates on 110 a.c. and batteries are recharged while in position on the truck. All battery terminals are cleaned at least twice each month and cup grease applied. This prevents corrosion.

A card system record is kept of the date installed and a history of the life of the battery. In the event a battery does not survive the guaranteed time, it is returned and adjustment credit obtained.

Our experience has been that the life of a battery in fire apparatus is about eighteen months. If batteries are kept in service over this period we find that they have to be more frequently recharged.

Burr Hamilton, Chief, Marion, Ind.: We have the batteries on all apparatus on a low rate charger at all times. These chargers have a connection on the apparatus which automatically disengages itself when the apparatus leaves the stations and is immediately connected when returning to the station. This keeps our batteries in good condition at all times.

Lawrence E. Smith, Chief, Eau Claire, Wis.: Each station in this department is equipped with the proper rectifiers for charging batteries. Each engine man takes care of the battery on his own piece of apparatus. Batteries are charged in position on the apparatus. This seems to work out very well.

L. L. Geisler, Chief, Johnson City, Tenn.: We use a portable Besco Charger to change our batteries. Batteries are charged in the trucks.

Gustav Anselm, Chief, Wyandotte, Mich.: We test batteries every day. Whenever necessary, we put on the charger. We use the General Electric Tungar charger, six volts, five amperes. We have found them very satisfactory.

Batteries are not removed from the apparatus. We have sockets on each unit for plugging in.

George N. Fletcher, Chief, Rochester, N. Y.: We use the General Electric Tungar charger. Batteries are charged in position.

T. H. Gordon, Chief, Great Falls, Mont.: We use motor and generator for charging batteries and have found them very satisfactory. Batteries are left in the trucks. Wires are fastened to the batteries with a drive pin.

John C. Stahlhut, Chief, Fort Wayne, Ind.: In our large houses we use a Tungar charger which charges one or all batteries at one time. Batteries are charged in position.

J. Nygren, Chief, Joliet, Ill.: Batteries are tested every day. We use five-ampere Westinghouse and Hobart generators. They are charged in position.

J. Ludie Croom, Chief, Wilmington, N. C.: We use a generator for charging batteries. They are charged in position.

J. A. Scruggs, Chief, Nashville, Tenn.: We submit our batteries to a hydrometer test. We use Tungar chargers and have found them to be very satisfactory. Batteries are not removed from the apparatus, but are charged in position.

W. O. Blackwell, Chief, Spartansburg, S. C.: We take a reading of batteries each morning. If they are low, we recharge them with a Tungar rectifier. They are charged in position.

Richard Widmann, Chief, Madison, Wis.: Our batteries are given a regular inspection and test by the driver and mechanical engineer. We use General Electric trickle chargers and charge in position.

Howard Travers, Chief, Baltimore, Md.: We use the Tungar bulb type six-amperes battery charger. These are installed at all stations. They have proved very satisfactory. All batteries are charged in position on apparatus, except in cases where spare batteries are necessary.

H. C. Root, Chief, Springfield, Mass.: We use a Westinghouse portable charger in each house. Batteries are charged in position. The charger is removed when the bell hits.

A. J. Cote, Chief, Woonsocket, R. I.: We charge batteries at least once each week, or whenever necessary. We do not use trickle chargers but use the lamp type rectifier. Batteries are charged in position.

William J. Sudeith, Chief, St. Paul, Minn.: Our batteries are checked by a hydrometer every morning. We employ a two-ampere trickle charger with satisfactory results.

Batteries are removed and taken to our repair shop for charging.

Robert Hoover, Chief, Kokomo, Ind.: We use the twelve-ampere bulb type battery charger. Batteries are charged in position by means of a connection under the running board.

S. J. Flores, Chief, Shreveport, La.: We use the Tungar type battery charger and charge in position.

C. A. Hart, Chief, San Antonio, Tex.: We use the Tungar bulb chargers for recharging batteries. If necessary, we replace with another battery.

We use the bulb type trickle charger (Silver Beauty). We have used them only for a short time, but they have given satisfaction so far.

When a battery is in bad shape it is replaced, otherwise it is recharged on apparatus.

We make and repair all batteries in our Repair Shop.

Leo J. Urbanski, Chief, Saint Joseph, Mo.: We use the General Electric trickle charger and have found them satisfactory. The charger is hooked to the battery while in the apparatus.

Harry Hutton, Chief, Salem, Ore.: In Headquarters we use a ten-ampere charger. In the outside stations we use a two-ampere. Batteries are charged in position.

Ralph C. Dinkel, Chief, Terre Haute, Ind.: We use the General Electric Tungar charger and have found it very satisfactory.

Batteries are charged on the apparatus by the use of a plug at the most convenient place on the apparatus for removing in the event of an alarm. This plug is made so that it can only be connected the correct way to charge the battery.

Matthew J. Kavanagh, Chief, Amsterdam, N. Y.: Batteries are checked weekly and water kept up to where it should be.

We use the Tungar battery charger with satisfactory results.

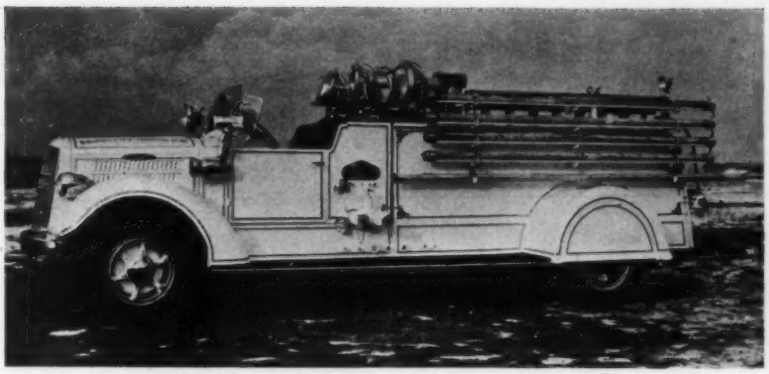
C. E. Harris, Chief, Akron, O.: We use the Westinghouse Rectigon Charger with very good results. Batteries are charged in position on apparatus.

Fire Engineer Weds

Harry K. Rogers of Chicago, Ill., nationally known Fire Prevention Engineer, was wed recently in Iowa. Affiliated with the Fire Prevention Department of the Western Actuarial Bureau, Rogers is an honorary Fire Chief in many cities.

Chief Perres Dies

Chief Felix Perres, lifelong resident of S. Rayne, La., died suddenly, following an illness of only a few hours' duration, at the age of fifty-five.



New Apparatus for Briarcliff Manor, N. Y.

The Fire Department of Briarcliff Manor, N. Y., recently added a Type 50 Mack patrol and squad car, a unit which is continually on call as a mobile "Lifesaver." This combination patrol and squad car is featured by the following equipment: A pump of 250 gpm capacity, four lengths of 2½-inch suction hose, two hundred fifty feet of ¾-inch booster hose, 250-gallon water tank, an 1,800-watt floodlight generator set, and other emergency equipment. There are compartments under the seats for carrying 1½-inch hose.

Mr. Perres was a charter member of the Rayne Fire Association which was formed in 1900. More than twenty-five years ago, he was honored by being appointed Chief of the Department. He strove to provide the latest methods and equipment for the association, making it one of the outstanding volunteer departments in the south. His work was recognized, for he was elected several times to serve as a State Representative to the I. A. F. C.

Aerial Truck Training at McKeesport

A course of instruction in the use of the new recently purchased 100-foot, all steel ladder truck has been instituted at McKeesport, Pa., under the direction of Chief J. C. McAllister. The truck is equipped with apparatus that is new to most of the firemen in that part of the state. It was pointed out that the course did not mean that the members of the department were not trained, but the new fighting aids required training in their use.

A portable acetylene torch will enable the firemen to cut through the steel sidewalk openings which are built in nearly all buildings in the downtown district. Other equipment includes a portable lighting system, gas and smoke masks, hand lights, portable fire extinguishers, a reel of hose, 200 feet of short ladders, a life net, shovels, pitchforks, axes, jacks, crowbars, and a battering ram to permit firemen to break through concrete and brick walls.

A Test Demonstration of the New 100-Foot All Steel Aerial Ladder

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Maximum Flow Through Suction Lines

To the Editor:

How much more water will two fifty-foot lengths of 3-inch hose siamesed, feed into suction intakes on a 1,000 gallon pumper, with 40 pounds hydrant pressure, than two fifty-foot lengths of 2½-inch hose?

T. P. R.

Answer:

The following solution will give you approximate results.

First, allow ten pounds inlet pressure at the pumper. If the hydrant pressure is kept at 40 pounds, then the friction loss from the hydrant to the pumper will be 40—10, or 30 pounds per fifty-foot stretch.

For a hundred-foot stretch, the friction loss would be 2×30, or 60 pounds.

Where two parallel 2½-inch lines of hose are used, solution for the flows will be as follows:

Employ the friction loss formula, and in it use the friction loss as determined above, and solve for the flow, Q, in hundreds of gallons per minute.

Friction loss $= 2 \times Q \times Q + Q$ (for 100 feet of 2½-inch hose).

$$60 = 2 \times Q \times Q + Q.$$
$$60 = 2Q^2 + Q.$$

Complete the square of the equation, first by multiplying each side by two, and then by adding one-quarter to each side.

$$120 = 4Q^2 + 2Q.$$

Adding the one-quarter to each side we have $120 + .25 = 4Q^2 + 2Q + .25$.

Take the square root of each side.

$$10.97 = 2Q + 0.5.$$
$$2Q = 10.97 - 0.5 = 10.47.$$
$$Q = 5.235.$$

Or the flow is 5.235 hundreds of gallons per minute, or 523.5 gallons per minute. This is the maximum flow which can be taken through each line while the hydrant pressure remains at 40 pounds.

Where 3-inch hose is used, the allowable friction loss from hydrant to engine will again be 30 pounds for the fifty foot stretch, or 60 pounds for the hundred foot stretch.

If we are again to use the friction loss formula, which is good only for 2½-inch hose, we must correct the friction loss to correspond to that in 3-inch hose. As the friction loss in 2½-inch hose is 2.6 times that in 3-inch hose of the same length, we really have 2.6×60, or 156 pounds friction loss to be employed in the formula to find what the flow will be.

Then we get $156 = 2 \times Q \times Q + Q.$
$$= 2Q^2 + Q.$$

Multiplying both sides by two, we have $312 = 4Q^2 + 2Q$.

Adding one-quarter to each side, we have $312 + .25 = 4Q^2 + 2Q + ¼$.

Abstracting the square root of each side we get $17.87 = 2Q + .5$.

Subtracting .5 from each side of the equation, we get $17.17 = 2Q$.

$Q = 8.585$ hundreds of gallons per minute, or 858.5 gallons per minute which is the maximum flow we get through each line of 3-inch hose while the hydrant pressure remains at 40 pounds.

Thus the flow through two parallel lines of 3-inch hose will be 1,717 gallons per minute and the flow through two parallel lines of 2½-inch hose will be 1,097 gallons per minute.

The difference between the two layouts will be 1,717—1,097, or 620 gallons per minute, in favor of the two parallel lines of 3-inch hose.

Conversion Factors for Hose

To the Editor:

How is the factor for changing 1½-inch hose to 2½-inch hose derived?

If 3.6 is a factor to reduce hose to 2½-inch from 3-inch, is there any figure that serves as a base for 2½-inch hose which seems to be the gauge for all hose sizes?

What is the factor for two lines of 1½-inch in comparison to one line of 2½-inch hose?

C. L.

Answer: All factors for changing hose from one diameter to another are based upon the friction loss of those lines for certain flows.

The friction loss for a given flow is 1 ÷ 0.074 times as much in 1½-inch hose as it is in 2½-inch. Therefore we divide the length of 2½-inch hose by .074 to find the length of 1½-inch hose which would give the same friction loss. The same applies to all other sizes.

The factor for 2½-inch hose would be 1, for converting any hose to its own size would naturally give the same length, and 1 is the only divisor which would accomplish this purpose.

All factors for converting hose are based upon 2½-inch hose friction loss.

The factor for changing two parallel lines of 1½-inch hose to a single line of 2½-inch hose is 0.2664.

Draining Out Hose

To the Editor:

Should a hose rack be made level so that a little moisture will remain on the inside of the hose, or should it be made higher on one end or in the middle so that all the water will drain out?

W. B.

Answer: Every hose rack I have ever seen has been inclined so that the wa- out by gravity.

While water is good for rubber lining in hose, there seems to be a fear that ter remaining in the hose may be drained the formation of a weak sulphurous acid through the action of free sulphur in the rubber may cause deterioration of the hose jacket at the coupling, where water may find its way around the end of the lining.

Many cases of damage to the jacket have been reported in the past, and this seems to be the logical explanation. For that reason, the water is usually drained from the hose, and the hose is flushed out periodically to keep the rubber alive.

Flash Points

To the Editor:

Which has the highest flash point, kerosene or grain alcohol?

J. A.

Answer: The flash point of kerosene is 37 degrees Centigrade, or 98 degrees Fahrenheit; the flash point of grain alcohol is 12 degrees Centigrade, or 53 degrees Fahrenheit.

Use of Pump for Removing Air

To the Editor:

Can a rotary gear pump be used to pump gas from a dry sewer manhole?

What capacity have the piston and centrifugal pumps regarding same?

H. O. M.

Answer: A rotary gear pump can be used to remove gas through a manhole, but operation of pump for any length of time in this dry condition might cause overheating and damage to the bearings or other parts.

Piston and rotary pumps have similar characteristics with regard to removing air. Centrifugal pumps, on the other hand, are not as efficient in removing gas, or air.

It is not recommended that any pump be used for this type of service.

Fog Nozzle Lines

To the Editor:

In reading in the February, 1940 issue, the article by Clyde C. Oakes, entitled "Fog Nozzles Prove Effective on Small Interior Fires," I notice that he stated that "in the use of the garden hose size, it is siamesed for fifty feet from a three-quarter inch booster line two hundred feet long."

Was the hose siamesed from two three-quarter inch booster lines or was a wye connection used?

J. R. M.

Answer:

It is evident that our correspondent meant "reduce to" rather than "siamese" three-quarter-inch booster line to a garden hose. Garden hose is usually 1½ or ⅝-inch in diameter, and it is unlikely that a single ¾-inch line would be split

by a wye into two of these lines. Therefore it is evident that the author of the article referred to had in mind reduction of the ¾-inch line to a line of garden hose diameter.

Correspondence

Back Copies Wanted

To the Editor:

In order to complete my file of copies of FIRE ENGINEERING I am most anxious to procure the following issues:

1932—January, February, April, June, July and October.

1936—January, February, May, October and November.

If you can supply these I will greatly appreciate it. Of course, I am willing to pay a reasonable price for these copies.

R. S. FOWLER,
The G. H. Mead Co.,
131 N. Ludlow St.,
Dayton, Ohio.

(EDITOR'S NOTE.—Sorry, but our supply of these copies is entirely exhausted. If any of our readers have these copies and no longer need them we are sure Mr. Fowler will be grateful if you communicate with him direct. Mr. Fowler is an ardent fire fan and has been doing a lot of fine work for the Dayton Fire Department.)

Who Can Use a Fireman?

To the Editor:

All my life I have wanted to be a fireman. I took a recent examination in New York City, but was rejected because I was five pounds under required weight. I am twenty-nine years of age, six feet one inch tall and weigh 155 pounds.

I cannot, for the life of me, see why a discrepancy of five pounds in weight will ruin a man's ability as a fireman. It seems to me that it takes more than pounds to make a good fire fighter.

I would like to get in touch with some Fire Department that could use a man of my qualifications. I am free to establish myself in any part of the country; hours and wages are immaterial, if there's opportunity to prove my worth.

Cordially yours,
T. T. S.

(*Editor's Note:* If any reader is interested in contacting T. T. S., address letter to T. T. S., care FIRE ENGINEERING, 24 W. 40th St., New York, N. Y.)

Where's the Fire

To the Editor:

Recently a call was received at Fire Department Headquarters. The man on duty at the desk picked up the receiver and said, "Hello, Fire Department." Before he could finish, the party at the other end yelled, "Fire, Fire Fire."

"Where are you?" asked the deskman.

"Here, here, here," was the excited reply.

"What is the address?"

"Right across the bridge."

"What street?"

"Second street from the bend."

"Where are you calling from?" queried the deskman.

"The first house that had a 'phone," was the reply.

"What is the address?"

"Maple Heights."

"Tell me just where you are?" asked the patient deskman.

"Right next to the kitchen," the answer.

"What is the name of the owner of the house that has the 'phone?"

"She is outside."

"Call her," ordered the deskman.

After a short time the lady came to the 'phone and then we were able to get the proper directions. After the fire truck arrived at the fire, the man who had originally tried to send in the alarm could not understand why the Department did not respond, when he called, without having to speak to the lady whose phone he was using.

CARL OLTMANNS
Secretary-Treasurer
Lake Erie Firemen's Association

Theatre Fire Takes Captain's Life

Reckless handling of gasoline in a nearby garage was said to have been the cause of a fire in the Japanese theatre hall, Stockton, Cal. Nearly 700 men, women and children were thrown into a panic when it was known that a fire existed.

A Section of the Wall That Caved in, Thus Causing Captain Causey's Death

When the Fire Department arrived, the firemen's efforts were concentrated on saving the lives of the terror-stricken guests. Police and firemen successfully removed the people from the building in an atmosphere of choking smoke and flames. After everyone was removed from the building, a general alarm was turned in, and all available apparatus was employed in fighting the fire. Twenty-four hose lines were in operation at one time.

While fighting the fire, Chief Thompson of the Stockton Fire Department ordered a group of men down from the roof. Shortly thereafter a side wall caved in. A ladder carrying two men near the top was leaning against the wall at the time. Captain Loren H. Causey attempted to steady the ladder as it was shoved away from the wall. He was buried under a shower of bricks and masonry. A heavy section of the masonry crushed his helmet and fractured his skull. He was pronounced dead on his arrival at the hospital.

Deputy Chief Steadman Dead

Deputy Chief John F. Steadman, Baltimore Fire Department, died following a heart attack March 7. Chief Steadman, who was forty-nine, was in headquarters at the time of his collapse. Dr. Oliver N. Lloyd, department physician, was in the room at the time.

The department ambulance was summoned, but Chief Steadman died on the way to a nearby hospital. He joined the department twenty-seven years ago and rose to be the second Deputy. His rise was steady, becoming a Lieutenant in 1921, and a Captain in 1923. In 1927 he was made a Battalion Chief. When he was appointed a Deputy in 1932, the captains of the Eighth District presented him a gold watch. OTIS SMITH.

Chief Westerfield Has Anniversary

A recent sounding of the ten inch gong in the home of Chief W. A. Westerfield marked the beginning of his twenty-first year of service with the Albuquerque, N. Mex., Fire Department. In 1923, he was named Captain and became Assistant Chief in 1931. In the same year, he was made Chief following the death of Chief Russell.

When he joined, the department employed only ten men and owned two trucks and one wagon. Now there are forty men, four pumpers, and one aerial truck. He has seen twenty years of active service without once being seriously injured. One of his outstanding achievements has been the administration of a toy repair campaign which has been in effect for the past nine Christmases.

Chief Wallace Dead

Chief Wallace died suddenly at his home, ending his firemanic career which was one of constant activity and interest in both the Fire Department of Greenport Center, N. Y., and the educational activities associated with the Columbia County Zone School for Firemen. He was a charter member of Greenport Pumper No. 1, which was formed January 17, 1927. His advancement through the various ranks from fireman to Chief was progressive through the years, to 1934 when he was appointed Chief by the Fire Commission of Greenport Center. The Chief was a member of the Columbia County and Hudson Valley Volunteer Firemen's Associations.

Department and Other Reports Received

Connecticut State Firemen's Association. Report of the fifty-sixth annual convention of the Connecticut State Firemen's Association held at Bridgeport, Conn.; 117 pages.

Denver, Col.—Annual report of the activities of the Denver Fire Department for the year 1939; thirty-six pages.

WHAT'S BURNING

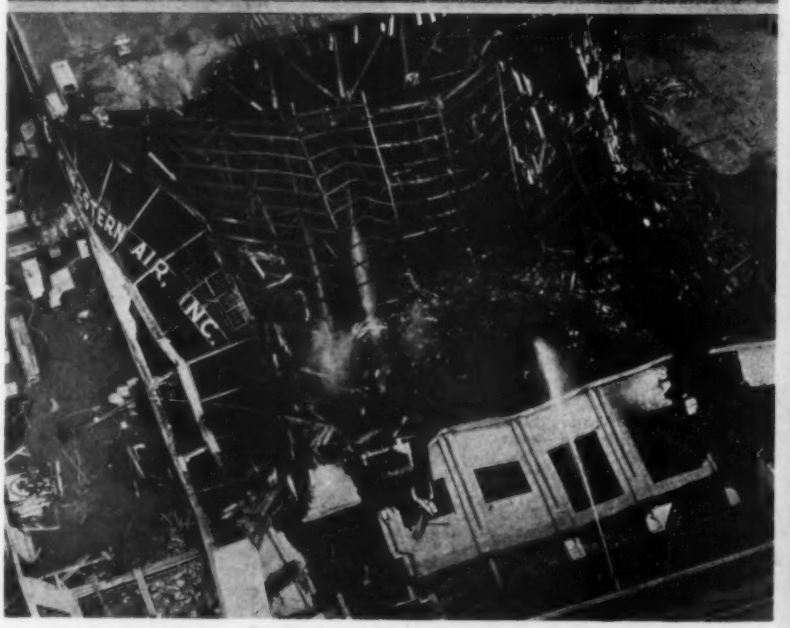
THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of March, 1940. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending March 31	Loss in Thousands of Dollars
Chicago, Ill.—Property of American Tire & Supply Co.	50
Marlboro, N. Y.—Hudson River steamer "New Yorker"	400
Listowel, Ont.—Listowel United Church	50
Worcester, Mass.—Apartment bldg. near Harrington Corner	50
Aberdeen, Wash.—Plant of the Aberdeen Plywood Co., Grays Harbor	500
Baltimore, Md.—Baltimore Lumber Co. plant and adj. property	250
Bowie, Md.—Stable at Bowie race track destroyed	50
Dayton, Ohio—Business property at Fourth and Main Sts	250
New Westminster, B. C.—Box factory of British Columbia Mfg. Co	210
Minonk, Ill.—Theatre and adj. property	125
Crichton, Ala.—Bluebird grocery destroyed	50
Attalla, Ala.—Ribbon factory of Benjamin Kahn	100
New Castle, Ind.—Burk bldg. at Broad and Main Sts., damaged	50
Cody, Wyo.—Dwelling owned by W. R. Coe destroyed	200
Newark, N. J.—Packing house of Jackson-Perkins Nursery Co	175
Charlotte, N. C.—3-story apt. property in downtown section	80
Weslaco, Tex.—E. Ford garage and adj. store damaged	50
Canon City, Colo.—Mine tipple and adj. property of Colorado Fuel & Iron Co., Prospect Heights	65
Kearny, N. J.—Chemicals bldg. of White Tar Co., damaged	200
Middleton, Ga.—Middleton Negro High School destroyed	50
Tracy, Minn.—Tracy Hotel	50
Atlanta, Ga.—Carrol Furniture Co. store, destroyed	50
Plaquemine, La.—Sawmill of A. Wilbert's Sons Co. destroyed	80
Lowell, Mass.—Abandoned foundry building and adj Boston & Maine garage	50
Rome, N. Y.—Larkin Block, business building, destroyed	100
Stillwater, R. I.—Lister Worsted Co., damaged	50
Huntsville, Ont.—Hotel Tynoka on Bella Lake, destroyed	50
East Mauch Chunk, Pa.—Schwartz Bros. furniture store and Young Men's Home.	70
Ottumwa, Iowa—Business building, damaged	165
Charlestown, Mass.—Warehouse of A. Da Prato Co., damaged	50
Fall River, Mass.—Cotton mill and adjoining buildings, damaged	210
Lowell, Mass.—Gaumont bldg. at Merrimac and Worthern streets, damaged	50
Lucasville, Ohio—Feed and flour mill and warehouse, destroyed	80
Greenwich, Conn.—Edgewood private school, damaged	50
Rockford, Ill.—West End Furniture Co. plant, destroyed	325
Tiverton, R. I.—Mansion of David H. Atwater, damaged	50
Palmyra, Ill.—Property of Alexander Lumber Co., destroyed	50
Boyce, Va.—Barns on estate of Abraham Hewitt, destroyed	65
Paducah, Ky.—Tobacco and warehouses, destroyed	125
Garrison, N. Y.—Monastery of Franciscan Friars of the Atonement, destroyed	65
Wilkes-Barre, Pa.—Wilkes-Barre Township High School, damaged	80
Clearfield, Iowa—School destroyed	50
Worcester, Mass.—Building owned by Chase National Bank, destroyed	170
Ridgewood, N. Y.—Cassen Bros. Laking Co. plant, destroyed	50
Pike, N. H.—Wooden mill of Moosilauke Lumber & Bobbin Co., destroyed	50
Sunbury, Pa.—Building of Comerford Theatres Corp., damaged	50
Mountain View, Wyo.—Business building owned by John Angwine, destroyed	50
Albany, N. Y.—State Office Building, damaged	50
Washington, D. C.—St. Peter's Church, damaged	50
Clifton, N. J.—Plant of Newark Plaster Co., destroyed	170
Boston, Mass.—Four one-story houses and adj. buildings, damaged	65
Lisbon, Pa.—E. Hoffman's grist mill, power plant, wheat, grain and feed	55
Toledo, Wash.—Toledo High School, destroyed	50
Lawrence, Mass.—Paradise Restaurant and adj. building and apartment, damaged	50
Creston, Iowa—Clearfield Public School, damaged	50
Dunkerton, Iowa—Howard Marsh grocery store, damaged	50
Haverhill, Mass.—Property of Merrimac Sawdust Co., located on Hale St.	65
Honesdale, Pa.—Brown's Furniture Store, Park St., destroyed	50

Four-Alarm Fire Sweeps Hangar at Big Airport

A four alarm fire of undetermined origin swept through one of the nearly completed hangars at North Beach Airport, Queen County, N. Y. The hangar, which is the center one of three, was said to be damaged to the extent of about $500,000. The blaze was discovered in a wooden paint locker and spread rapidly to the wooden scaffolding and false wooden ceiling that was being used by painters, plumbers and electricians. In about thirty minutes, the heat was so intense that the steel, asphalt, and glass roof caved in.

Firemen from twenty-one companies that responded were hampered somewhat by the lack of water pressure. Finally the pressure grew stronger, and a group of firemen on the roof of an adjoining hangar roof directed water on



Above: The Fire at Its Height Showing the Sides and Roof Caved In

Below: An Aerial View of the Structure as It Appeared the Morning After the Four-Alarm Fire Had Swept Through the Huge Structure

the blaze. For two hours, when the fire was at its height, twenty-four lines were in operation.

The structure was to be completed in about six weeks.

Dayton, Ohio, Fights Largest Fire in Its History

A $300,000 fire, which spread through the fifty-year-old Kuhn Building in Dayton, Ohio, was the first four alarm fire in the history of the department. The blaze was believed to have started in the cellar of a jewelry shop. The fire worked up through the partitions into the five story Kuhn building. For twenty minutes after the fourth alarm, the rest of Dayton was protected by only one engine company. Soon after, engines from the Oakwood Fire Department filled in for the Dayton.

Twenty-two lines were used on the fire. The firemen were directed through the large address system on Dayton's light truck. Thirteen engines and six ladder companies responded to the four alarms. This is the fifth large fire since Chief Joe Kirby's appointment.

Stubborn Fire in Greenwich Village

Not since the year 1922 has the Greenwich Village district of New York City experienced such a stubborn fire as a recent four-alarm blaze. A six-story building, estimated to be over seventy years old, caught fire from an undetermined cause. The first five floors were devoted to manufacturing of artificial flowers and the sixth floor was used to store the flowers.

The building had only one stairway; fire escapes front and rear, iron shutters on the exposed wall to the east and no shutters or windows on the portion of the west wall where the sixth floor tops the roof of the adjoining building. The standpipe in the building was too obsolete for use; there were no siamese connections or sprinkler systems; and a violation of law had been recorded against the premises.

Acrid smoke from the chemicals employed in manufacture of flowers knocked out a number of the fire fighters. They were rescued by other companies. Because of the fumes, the fire had to be fought almost entirely from the outside.

Fighting the Fire From the Outside

"Only Hot Girlie Show in Brooklyn" Takes Fire

A two alarm fire broke out in the balcony of the Star Burlesque theatre in Brooklyn which is the oldest of its kind in that borough. Although no one was injured, many of the performers were forced to flee to the streets scantily clad.

The Fire, Second in Two Months, Which Damaged the Adams Plant at Shelton, Conn.

Fire Strikes Twice in Same Section

Fire, which gutted two buildings of the vacant Adams Manufacturing Company on Wharf Street, Shelton, Conn., last year, struck the third remaining structure on February 24, sweeping through the first and fifth floors causing damage estimated at $25,000. The Adams Manufacturing Company closed down three years ago, shortly after the RFC took over the plant. It was once one of the largest factories in the lower Naugatuck Valley and employed hundreds of men in boom times.

Fire Chief Victor Cramer said the origin of the blaze, like that of the previous conflagration, was unknown, but State Police were immediately called in to make an investigation.

The fire started at the bottom of the first floor stairway and mushroomed up to the top floor of the five-story building, destroying both floors, the stairway, an elevator shaft, the roof, and a large water tower. The first alarm was sounded at 4:20 a.m., and a second alarm was received a few minutes later. While members of the Echo Hose Company fought the blaze, the Storm Engine Company from Derby, across the Naugatuck River, was assigned to protect the Shelton area.

THOMAS F. MAGNER.

$200,000 Easter Day Fire

Participants in the Easter Parade in Ottumwa, Ia., had a good chance to see their firemen in action. The scene of the fire was the four story Hoffman building which housed the Hoffman Drug store and seventeen offices in the business section of Ottumwa.

Fifty-four members of the Ottumwa and Fairfield Fire Departments battled the blaze for nearly eight hours. Despite the efforts of the firemen which were greatly hampered by smoke, the fire swept through the building resulting in a damage loss of approximately $200,000.

PROMOTIONAL STUDY COURSE

Herein is presented a series of definitions, questions and answers designed to aid fire department officers in preparing themselves for promotional examinations. In this department, which appears monthly, will be included questions typical of examinations held throughout the country.

Miscellaneous Questions

Answers to these questions will be given in the May issue of this journal.

Question 1. When fire is burning in a sprinklered building, where are the first lines usually stretched?
Question 2. What is the chief advantage of standpipes in fire fighting?
Question 3. When fire is burning above the third floor of a building equipped with standpipe system, which engine company connects to the standpipe at the street siamese?
Question 4. What two types of foam fire extinguishing systems are there now in use?
Question 5. Name two materials which, when burning, make fires that cannot readily be extinguished by foam?
Question 6. For what type of hazard is the carbon dioxide extinguishing system particularly effective?
Question 7. Which have the greater range: carbon dioxide streams or foam streams?
Question 8. In general, what type of water stream is best for large, hot fires?
Question 9. As a general rule, on which side of an open fire should major fire fighting operations be carried on, i. e., the leeward or windward side?
Question 10. State two instances where the rule in Question 9 could not be followed.
Question 11. Conditions permitting, on which side of an inside fire is it best to operate?
Question 12. What is meant by "ventilating" a building?
Question 13. What is meant by "mushrooming"?
Question 14. What is the most effective way of checking mushrooming?
Question 15. What points must be considered when ventilating a building?
Question 16. If, when ventilating a burning building, you find no scuttles, skylights or other coverings to open, what would you do?
Question 17. When cutting a hole in a roof for ventilation, what precautions would you take?
Question 18. In ventilating a room, how should windows be opened? How, when ventilating a floor?
Question 19. At what point in a building does the work of ventilating usually start?
Question 20. Before putting a Hale door opener into operation to force a door, what should be done?
Question 21. An engine is pumping through 400 feet of 3-inch hose equipped with 1¼-inch nozzle. Engine pressure is 150 pounds. Find (a) Nozzle Pressure; (b) Friction loss; (c) Discharge.
Question 22. In what lengths are scaling ladders usually made?
Question 23. What is the purpose of the hook ladder?
Question 24. What is the distance, approximately, between rungs on a ladder?
Question 25. What is the principal use of the pompier ladder?
Question 26. For what is the hydrant force pump used?
Question 27. Why is it dangerous to spill sulphuric acid on the fire station floor?
Question 28. What appliance is used to prevent spillage of acid from carboys when recharging extinguishers?
Question 29. To what use are heavy screw jacks put by fire departments?
Question 30. Name three substances employed to prevent the water in hydrant barrels from freezing.
Question 31. How could you determine whether or not water was frozen in a hydrant barrel?
Question 32. How should a high-pressure hydrant with independent gate be opened?
Question 33. Name two types of fire hydrants?
Question 34. What is meant by a "compression" hydrant, and how does it operate?
Question 35. What is the function of the drip valve on a fire hydrant?
Question 36. Does the taper of a fire nozzle have any effect on the range of stream therefrom?
Question 37. What is meant by a "play pipe"?
Question 38. For what purpose are vanes placed in some nozzles?
Question 39. What is the formula for determining the reaction (or "back kick") at a nozzle from a fire stream?
Question 40. Is the reaction apt to be greater on a shut-off nozzle when opened quickly than on the same size open nozzle?
Question 41. What is the chief precaution to observe in the operation of a controlling nozzle?

Eastern Chiefs to Meet June 6-8

The annual conference of the Eastern Association of Fire Chiefs will be held at the Du Pont Hotel, Wilmington, Del., on June 6-8, instead of May 23-25, as reported in "Convention Dates" of the March issue of this journal. The latter date was the one originally selected but it was changed to June 6-8 at the meeting of the Board of Directors of the Association held in February.

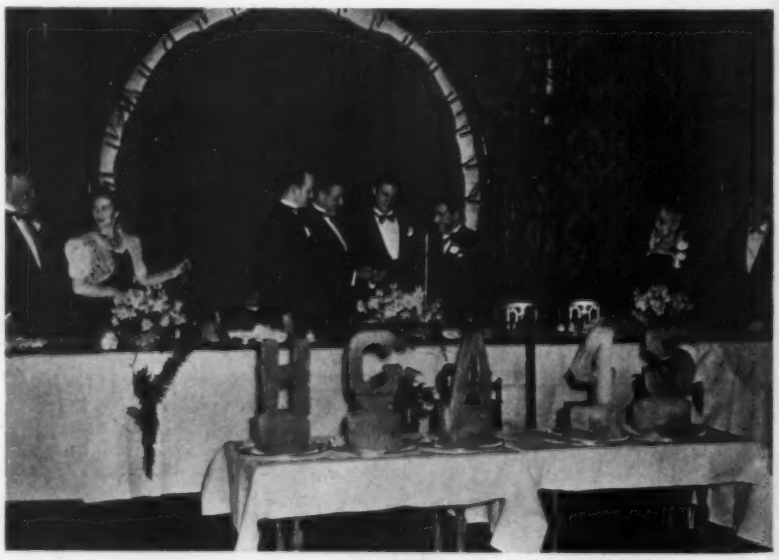
F. J. Ertle Becomes Chief

Early in March, F. J. Ertle was appointed as Chief of the Jersey City, N. J., Fire Department to succeed Chief Roger Boyle, who died in January.

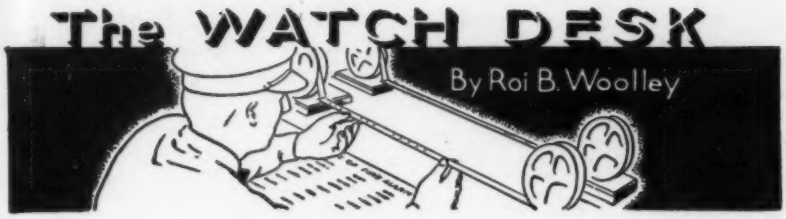
Chief Davis Awarded Greeters' Plaque

Ross B. Davis' many years of successful effort in making Philadelphia a safe city were recognized by the Philadelphia chapter of Hotel Greeters of America in its sixth annual dinner in the Benjamin Franklin Hotel. The veteran Chief Engineer of the Fire Bureau was presented with a plaque given each year for outstanding work in publicizing Philadelphia. Despite the lack of equipment, Chief Davis has made Philadelphia known for its fine fire safety record. In the fourteen years of National Fire Waste contests, this city has won four grand prizes, eight first honor city awards, and two honorable mentions. No other major city has approached this record.

In addition to the award given by the Greeters, Lynden Harris, widely known for his collection of Fireman's antiques, presented the Chief with the first Fire Chief's badge issued in Philadelphia.



Philadelphia Chapter No. 45 Greeters of America Presenting Their Annual Civic Award to Chief Ross B. Davis



Our inquiring reporter overhauls the firemanic news of the day

Out in Du Bois (Neb.) a cigarette started a fire outside the dance hall where firemen's ball was being held. The dance resumed after fire was reported "out." Soon, the second story of the frame building was discovered to be ablaze. The local Brothers called on neighbors for help but, en route, the Pawnee City fire truck itself caught fire from shorted wiring. Much fuss! Except for heightened blood pressure, frayed tempers, etc., total damage was slight.

We've frequently recounted the "woe" of the firemen of Woburn (Mass.) where Mayor Kane, sore at the Brothers, took away the two-platoon system, making the men work 24 hours a day, six days a week, giving them only four beds so they hadda sleep in relays and generally making their life hell-on-earth. Now comes first good news as Woburn's Judge Greenhalge has ordered reinstatement of two-platoon system.

LAKE ON FIRE—BELIEVE IT OR NOT

Thank you Brother Sherman of Oshkosh (Wis.) for your "orchids" to the "Watch Desk" and for that story about firemen of Madison (Wis.).

The latter has to do with a call received from University of Wisconsin campus where the Brothers, on responding, found a heavy smudge of black smoke rising—of all places—from a hole in the ice on Lake Mendota.

It develops that a pool of waste oil, offshore was ignited by some prankster. Three fire companies stood fast while "smoke got in their eyes" and the blaze ate its way through the ice—finally extinguishing itself in the water below.

REPORTER WEISBERGER "REPORTS"

Demon reporter Johnny Weisberger sends us a hat-full of news. Best item is one which was received from four other contribs'. It has to do with firemen of two villages that let a house burn because of a row over a town debt.

Due to a financial dispute, Fire Departments of incorporated villages of Haverstraw and W. Haverstraw (N. Y.) refused to lend a hand in fighting a blaze in the unincorporated part of township of Haverstraw. House burned down, leaving four families homeless.

Firemen and apparatus from W. Haverstraw and Garnersville, the latter a part of W. Haverstraw, responded to alarm because of uncertainty as to exact location of house. When they found it was outside their "precincts" they just stood as spectators. Help was asked of Haverstraw, but was refused. This was second "unattended" fire in unincorporated area since dispute, which began two years ago. Other was a $35,000 hotel fire at which Haverstraw and W. Haverstraw Departments "absented" themselves.

The dispute grew out of effort of Boards of Trustees of the villages to collect $400 from council of Township of Haverstraw on the grounds their apparatus was damaged to that amount while fighting fires outside their bailiwicks. Township Dads refused to pay, so they were notified they would have to do their own fire fighting. Meanwhile fire takes its toll!

The Brothers at Nesquehoning (Pa.) are peeved. Some dirty thief has been filching the gas right outa of the fire trucks. They discovered the fact while responding to an alarm. Now they've got the police—so 'tis said—keeping an eye on the fire house at night.

The recent serious fires at the Vatican (Rome) have led to establishment of an organized Vatican City Fire Department, with 20 men and modern automotive equipment.

Carrying Coals to Newcastle

According to our Minneapolis correspondent a local speed cop snapped out the old wheeze as he drew up alongside Marcia Schneider in her car. *"Where do ya think yer going—to a fire?"* he barked. *"No,"* she replied, *"I've got one with me!" "Smart, ain't ya"* growled the officer, reaching for the summons book. Then he sniffed and looked—and sure enough, the back of Marcia's car was afire! We dunno what happened to the fire, or the ticket.

Always Considerate

E. H. Sprangers of Philadelphia tells us about Frank Mattera's prize rabbits. Seems that when Mattera went to replenish the bunny's drinking supply in his barn he found pipes frozen, so he and his employees used a blow-torch to thaw 'em out—the pipes, not the rabbits. Yeah—you guessed it . . . pipes were near wall and barn took fire. By time Braves from North Wildwood (N. J.) arrived things were booming. Fast work saved the bunnies, and then the thoughtful lads filled the rabbit's drinking trough from their hose lines.

No Respecter of Persons

Ol' Debbil Fire is no respecter of persons. Out Des Moines (Ia.) way, Earle L. Robinson, whose hobby is fire fighting, and a regular contrib' to this journal, lost roof of his former home t' other day. The house, occupied by his son, took fire and alarm brought Earle from his radio and antique shop nearby, on the run. He reported a "swellegant" job was done.

Incidentally, "E. L." (and three other newslueths) sends us story about fire at H. Q. of Eng. 34 Philadelphia which embarrassed the Smoke eaters no end because somebody up and turned in alarm, calling out three other companies to help extinguish it.

Adding Insult to . . .

From C. G. Riecke, Secretary, Davenport (Ia.) F. D., comes yarn about trials and tribulations of Leonard "Wimpy" Golden, Davenport Brother who, going off duty, found starter on his old auto stuck, had buddy pull him home and, as his garage is built at bottom of a long incline, stopped the tow half way down saying he'd coast rest of way in. He got out, raised hood to release stuck starter when emergency brake let go and like Dobbin, car headed fer the barn—with "Wimpy" popeyed, watching it go. There being no handle on closed auto door he was helpless. The jallopy crashed through closed garage doors, brought friend wife on run. "Wimpy," in heat of argument, threw a wrench through rear auto glass then sold car for $7. Damage to garage $20—deficit —$13.

HOT OFF THE TICKER

Mayor LaGuardia, New York City, has "billed" Bayonne (N. J.) $492 for damages to N. Y. C. fireboat Wm. L. Strong which bent a propeller while fighting a fire in response to a call for aid from that city. . . . In Jersey City (N. J.) two sailors were killed, 24 others overcome by potassium cyanide poisoning, traced to fumigant used in a ship. . . . In New York City 20 workers in a loft were knocked out when oxygen in workroom was consumed by gas burners. . . . In a similar case 8 were overcome by carbon monoxide poisoning in a dress shop in the Bronx. . . . While the "pix" *"Money to Burn"* was showing at the Bristol (Ct.) theatre fire destroyed the playhouse with $50,000 loss. . . . In Pittstron (Pa.) John Marinello put a kerosene lantern in chicken shed to keep hens warm. Youguessit—one of chicken knocked it over and shed went up—setting fire to house. Firemen doused blaze and think Marinello shoulda sent 'em some of the roast chicken. . . . When two of the four trucks of Paramus (N. J.) F. D., which responded to alarm of fire in home of Mrs. Meta Ackerman, exhausted their booster tanks, house burned down. By time help from Washington Township arrived, and despite relaying by six trucks from a brook about a mile away, 'twas too late to save anything. . . . Blasts in Maynard (Mass.) and Redondo Beach (Cal.) gave citizens idea what war is like. . . . 500 students of Princeton University cheered town firemen as they snuffed out small blaze in a dormitory. It provided welcome intermission in their mid-winter exams. . . . 300 were reported dead in big Japanese fire but later news greatly reduced casualties. . . . . A four-alarm blaze in Baltimore officially "warmed" that city two degrees. The Weather Bureau's thermometers were atop the Custom's House, across street from the fire. . . . When church in Garfield (N. J.) burned, nuns led 200 children to safety. . . . Twenty-five students of Rockhurst Catholic High School (Kansas City), were cut and burned, and scores were stunned by explosion of accumulated gas in school basement. We thought for a while it looked like a repetition of that Texas

tragedy! . . . Sixteen fire fighters were killed in fighting forest fires in 1939. . . . Dirtiest news we've read for a long time was story of Anthony Piano, Brooklyn butcher, who threw three puppies in bonfire and watched them burn to death. . . . When an auto hit a terminal box in Jersey City (N. J.) 300 fire alarm boxes were put out of commission, giving the Brothers bad case of jitters for awhile . . . almost similar accident cut off many boxes on Staten Island (N. Y. C.).

Former Chief Deming Dead

Lynn N. Deming, former Chief of the New Milford, Conn., Fire Department, died at the New Milford Hospital after a week's illness. Ex-Chief Deming was 44 years of age. He was named Chief of the New Milford Department in 1937 and served one year. He was also a Vice-President of the Fairfield County Fire Chiefs' Emergency Plan and a member of the Connecticut State Firemen's Association.

For three years, Chief Deming held the post of Third Selectman and was an unsuccessful candidate for state representative to the General Assembly in 1938. He served overseas in the World War with the Yankee Division, 102nd Infantry, Company E. After the war, he opened a taxi and garage business at New Milford.

THOMAS F. MAGNER.

When a Fire Is News

"When man bites dog, that's news." Firemen speed out of fire stations to fires which, in the majority of cases, makes "run of the mill" news. But when firemen are forced to fight a fire in their own fire station—that's a real story. It all happened at Seymour, Conn., on March 22, when the fire house radio caught fire from a short circuit and caused damage estimated by Fire Chief James W. Swan at $5,000.

The interior of the parlor and meeting room of the Citizens' Volunteer Engine Company No. 1 suffered most when flames from the burning radio spread to window drapes ruining floors, window casings, plaster and furniture.

A passerby saw the smoke pouring from a window and sent in an alarm. Luckily for the Citizens' Company, the building and its contents was fully covered by insurance.

THOMAS F. MAGNER.

Ex-Chief Westra Dead

Ex-Chief E. A. Westra of the Miami, Fla., Fire Department, was found dead shortly after he had been suspended on charges of intoxication while on duty and insubordination.

Westra joined the department in 1920 and worked up through the ranks. In 1925 he was promoted to the rank of Assistant Chief. He continued in this capacity until 1928 when he resigned. He remained out of service until 1931, and in 1932 he was made Chief of the department. He held this office until 1935. At that time he was appointed to head up fire prevention work, but two years later he returned to fire fighting service. In 1939, he was suspended from active duty and reduced in rank to a first class private. He continued in that capacity until he was suspended.

Treatment of Burns

A handy pocket size pamphlet entitled "Dependable Modern Treatments for Burns" by Harold Joe Davis has just been released from the press. This twelve page pamphlet (nine pages of text) gives a description of the types of burns and their treatment. There is also included a discussion on the various solutions, jellys, and ointments that are used in the treatment of burns. The last section contains a glossary of the medical terms that are used in the discussion on the preceding pages.

New Fire Station for Millinocket, Me.

A three-door Fire Station was recently constructed in Millinocket, Me., at a cost of about $30,000. The side entrance to this building leads to the fire alarm signal and battery room, the stairs to the second floor, the apparatus room which has a cell block for the police department, and a machine shop. The opposite side of the apparatus room contains the air compressor room, the Chief's office, and a vestibule which gives access to the street.

The second floor, which is only a portion of the front of the building, contains a large room for recreation, a modern kitchen, a dormitory, and a toilet. The basement is unexcavated except for a portion in the front of the building which is to be used for a boiler room. Adequate heating, plumbing, and electrical facilities have been provided.

Millinocket's New Fire Station

Luverne, Ala., Department Grows

As a result of a warning from the Southeastern Insurance Underwriters Association that insurance policies on the property of Luverne, Ala., would be canceled unless something was done toward stopping fire loss, a Volunteer Fire Department was organized. The department was composed of twelve men and the apparatus consisted of two mill style hose reels with approximately 400 feet of two and one-half inch hose to the reel, two battered and leaking nozzles, and two hydrant wrenches. The reels were drawn to the fire by attaching them to the back of a truck or a car.

Before long the need for a truck to carry the equipment was realized. A truck was purchased and fitted out by the members of the department. Soon calls became more frequent from outlying communities which necessitated the addition of another truck. Money for purchasing this truck was raised by a fair sponsored by the members of the department.

The entire membership of the department has had a complete course in first aid instruction and is now in the middle of a fireman's training school. The latest addition to the department is a salvage squad.

$200,000 Blaze Sweeps Block

An investigation is being carried on in Detroit, Mich., to determine the cause of the four-alarm fire which destroyed a business block. One fireman lost his life, five others were treated for injuries, and a sizeable number were treated for an overdose of smoke.

The fire was believed to have started in the basement of a restaurant. It gained headway despite the efforts of the first due companies. Persons living in the nearby apartments were either carried down the ladder or led down the stairs a few moments before their retreat was cut off by flames.

No Change in Ahrens-Fox

Reports circulated to the effect that Ahrens-Fox Fire Engine Company, Cincinnati, Ohio, was planning a change in ownership are cleared up by the following statement made to FIRE ENGINEERING by Harold R. LeBlond, president of the company, under date of April 6th:

"As the situation now stands, we do not expect any change in our position for some time to come, so we will continue to operate here just as we have done in the past."

Fire Company Head at 72 Years

John Gross, who is seventy-two years old, has been a member of the Tarrytown, N. Y., Fire Department for fifty-nine years. He was one of the organizers of the Jackson Engine Company in 1881, which covered the southern part of Tarrytown. He served as Chief in the Tarrytown Fire Department in 1897. This year he will run for his thirteenth term as President of his hose company. Beside serving as a firemen and running a grocery store, Mr. Gross has been elected to various jobs on the village administration.

Among the Fire Fans

By Otis Smith

TWENTY-SEVEN members of the Boston Sparks Association are taking the Red Cross Course at Fire Headquarters, Cambridge, Mass. Captain Friel, Drillmaster, Cambridge Department, is the instructor and many valuable points on fire aid procedure are being brought out. Chief Gutheim of Cambridge very kindly allows the use of the class room in fire headquarters every week until the required time has been completed.

Vincent Bolger reports that the Sparks have been serving coffee at recent fires. Fifteen gallons of coffee and several dozen doughnuts were served at a recent four-alarm fire in a statuary establishment in Charlestown.

The Phoenix Society has figured much of late in the newspapers of San Francisco. Both Al Fryer and R. H. Selig forwarded copies of the newspaper stories. On Feb. 28, an article entitled "Amateur Firemen Cut Capers" appeared in the *News*, accompanied by some very choice pictures of the various members and their better-halves. Richard Selig was the first to experience the effects of this publicity. An uncouth individual sauntered into his office and tried to sell him an $8,000 fire engine. Undaunted by an abrupt refusal, this enterprising salesman dropped down a notch and endeavored to sell Mr. Selig a 2½-gallon soda and acid fire extinguisher for $25, less a discount of forty percent. He was very unsuccessful in this contemplated sale and next he pulled out a very special quart-size hand extinguisher and proceeded to demonstrate same. This little gem was offered for the measley sum of $14, less the same discount of forty percent. He was literally kicked out of the office. So much for newspaper publicity on fire fan clubs!

The recent meeting of the Phoenix Society was, without a doubt, the most enjoyable ever experienced by the members. Among those present were Mr. and Mrs. Bergeman, Bolander, Cassidy, Mr. and Mrs. Coon, Farnham, Fryer, Heller, Jones, Mr. and Mrs. Ker, Mr. and Mrs. Larke, Mr. and Mrs. MacDonald, Mr. and Mrs. Melick, Patterson, Mr. and Mrs. Schaefer, Selig, and Sugarman. These members and their wives were augmented by Vera Bowyer, only female honorary member, Dr. Flint and Miss Dorothy Thompson, friends of Russ Bergemann; Deputy State Fire Marshal McFarlane; Miss Leary and Mr. O'Brien of the San Francisco *News*.

Thanks to Ed. Sprangers of Philadelphia for the program of the graduation of the sixty-first class from the Philadelphia Fire School. I note that the name of his brother is among those in the graduating class.

Thanks to J. Emory Parks, Rescue Fire Company of Cambridge, Md., for the copy of *Fire*, the official organ of the British fire service. The pictures and stories are interesting, especially the air raids precaution information.

Bruce Holmgren, 1014 South Linden Ave., Highland Park, Ill., is interested in hearing from fire fans in the Chicago area. Mr. Holmgren is twenty years old, a third-year student at Northwestern majoring in political science.

For his class this semester, he has the agreeable task of getting the whole story on the Evanston, Ill., Fire Department. This story will be made into a comprehensive report.

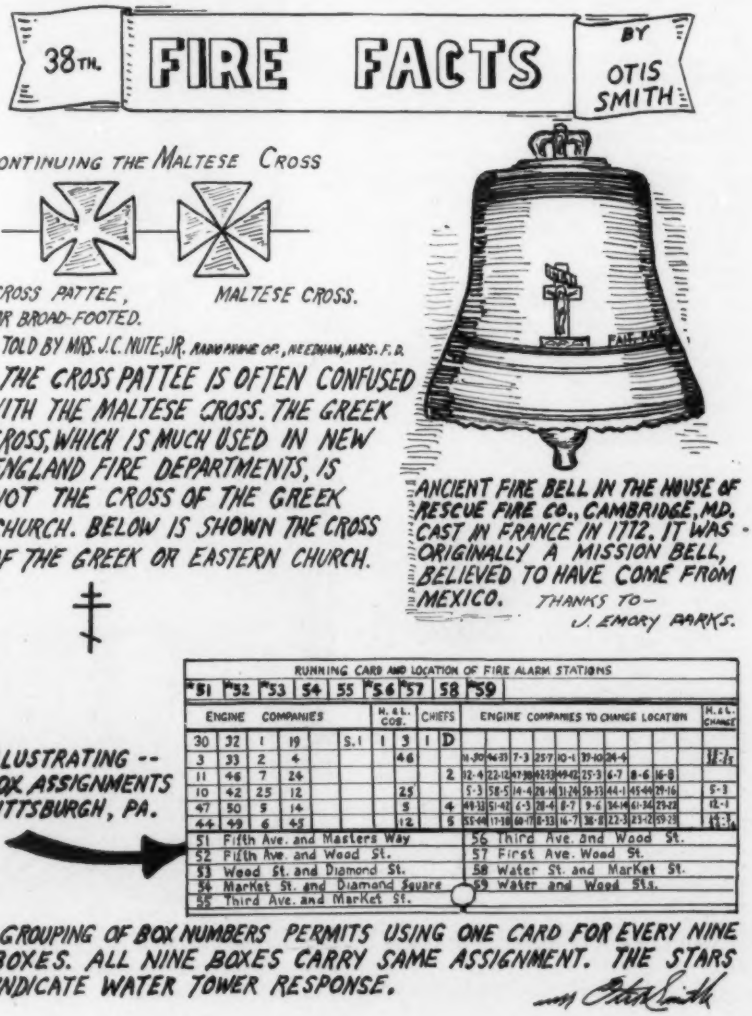
Baltimore, Md., fire fans saw plenty of action during March. The sudden outbreak of field fires kept city firemen on the jump. One day, during the month, ended with 119 alarms, the largest number of fires to occur in Baltimore in a twenty-four-hour period for several years. Had the situation become more serious, the off-shift could have been recalled to man the many second-line engines and trucks which are kept in readiness at all times. As it was, the fleet of brand new pumpers recently added to the department were able to get to and from the fires quickly enough so that the city was not stripped of protection.

George D. Cram sent the official history of the Protecting Society of the New Bedford, Mass., Fire Department. This history is complete with photographs of the early officials of the society, and the appliances used in that distant day. The organization began salvage work on October 26, 1829.

Additional information on the Maltese Cross comes from Mrs. J. C. Nute, Jr., 58 Linden St., Needham, Mass. Mrs. Nute is the Radio Phone Operator of the Needham Fire Department. Mrs. Nute says that she has studied much about symbolism in connection with church work. Her authority states that the Cross Pattee is often confused with the Maltese Cross. In looking over the catalogues of the leading badge manufacturers, only one Cross Pattee was found. The others are Maltese or Greek crosses or their variants. The Greek Cross, which is much used in New England Fire Departments, has arms of equal length and was probably developed by the artistic Greeks as being the most perfect form. It is not the cross of the Greek Church. It also has many variations.

Note to L. Chrissinger, Minneapolis, Minn. Your patent paper has been placed in the H. V. Smith Museum collection in New York City. The museum is open to all who care to visit it. For further information about the museum, contact the Home Insurance Co., 89 Maiden Lane, New York, N. Y.

Thanks to Bill Herries for the pictures of the fire house dogs. New York City fire houses have long been noted for their mascots. Dog mascots are barred from Baltimore fire houses on the theory that if a dog bit a citizen, the city could be sued. The rules state


38TH. FIRE FACTS BY OTIS SMITH
CONTINUING THE MALTESE CROSS
CROSS PATTEE, OR BROAD-FOOTED.
MALTESE CROSS.
AS TOLD BY MRS. J.C. NUTE, JR. RADIO PHONE OP., NEEDHAM, MASS. F. D.
THE CROSS PATTEE IS OFTEN CONFUSED WITH THE MALTESE CROSS. THE GREEK CROSS, WHICH IS MUCH USED IN NEW ENGLAND FIRE DEPARTMENTS, IS NOT THE CROSS OF THE GREEK CHURCH. BELOW IS SHOWN THE CROSS OF THE GREEK OR EASTERN CHURCH.
ANCIENT FIRE BELL IN THE HOUSE OF RESCUE FIRE CO., CAMBRIDGE, MD. CAST IN FRANCE IN 1772. IT WAS ORIGINALLY A MISSION BELL, BELIEVED TO HAVE COME FROM MEXICO. THANKS TO— J. EMORY PARKS.
ILLUSTRATING -- BOX ASSIGNMENTS PITTSBURGH, PA.
RUNNING CARD AND LOCATION OF FIRE ALARM STATIONS
51 52 53 54 55 56 57 58 59
ENGINE COMPANIES
H. & L. COS.
CHIEFS
ENGINE COMPANIES TO CHANGE LOCATION
H. & L. CHANGE
51 Fifth Ave. and Masters Way
52 Fifth Ave. and Wood St.
53 Wood St. and Diamond St.
54 Market St. and Diamond Square
55 Third Ave. and Market St.
56 Third Ave. and Wood St.
57 First Ave. Wood St.
58 Water St. and Market St.
59 Water and Wood Sts.
GROUPING OF BOX NUMBERS PERMITS USING ONE CARD FOR EVERY NINE BOXES. ALL NINE BOXES CARRY SAME ASSIGNMENT. THE STARS INDICATE WATER TOWER RESPONSE.
Otis Smith

that the stations may have a cat. In the early days the cat was very useful in keeping mice out of the hay loft.

The Pittsburgh running card was furnished through the courtesy of "Scrappy" Patterson, Pittsburgh Bureau of Fire. The boxes shown on this card (Fire Facts) are all vicinity boxes and the same assignment of companies answer all nine of the boxes. All Pittsburgh boxes are grouped in this manner more or less all over the city. Four digit boxes fit in with three digit boxes; thus box 484 and 4846 would be in the same neighborhood.

This column has received a San Francisco running card which will be shown in "Fire Facts" with appropriate comment. I believe that these running cards are of interest to most fans.

Fire fans were saddened to hear of the death of Baltimore's Deputy Chief John Steadman. He was very popular with firemen and fans alike. When the loud-speaker system in Baltimore's fire houses announced his sudden death, there was a sort of shocked silence. The men could not speak for a moment, so affected were their feelings. Fans liked him for his sympathy for the civilian admirer of the department. On one occasion Deputy Chief Steadman was tapping the recall signal at a box, when a lady inquired about the operation of the fire box. Although certainly not in the line of duty, the Deputy took time to explain the innermost working of the box to the lady.

Thanks to Emmons E. Douglass for three swell photographs of the early days in the Medford, Mass., Fire Department. The Mystic Sparks Club of Medford made a recent tour of the alarm office of the Boston Fire Department. This club would like to hear from buffs in the Boston area. Mr. Emmons lives at 33 Walnut St., in Medford.

Lieut. George McMullen, 1315 Clinton St., Saginaw, Mich., would appreciate receiving newspapers from anywhere, and will also exchange them. . . . John M. Hirst, 125 Marlborough St., Boston, Mass., has built a model of a 1928 Ahrens-Fox. . . . Leslie E. Keller, Baltimore fan, has moved. His new address is 344 N. Hilton St., Baltimore, Md. . . . To the Engine 54 Assn., Boston, Mass., you forgot to give your address. Kindly write to this column.

History of New York Fire Department

"History of the New York Fire Department," by Lowell M. Limpus. Illustrated. 380 pages. Published by E. P. Dutton & Co., New York, N. Y. Price, $3.50.

Following an introductory chapter by John J. McElligott, Fire Chief and Commissioner of the New York Fire Department, on "The Ancient Art of Fire Fighting," the author of this recently published book reviews in an interesting manner the development of fire apparatus and the fire service in New York City from 1628 to the present time.

The organizing of the New York Department in 1731 is described in the first chapter, while the second chapter is devoted to the period 1741-1783. During this period, the fire department was disrupted by the Revolutionary War. The great fires of 1776 and 1778 are reviewed, as well as the reorganization of the department in 1781.

The rapidly growing power of the volunteers in the early 1800s, both professionally and politically, is described in a highly interesting manner. In this period first appears the name of a young fireman, William Tweed, who was later to make history, though tainted, as the powerful head of Tammany Hall.

Development of apparatus and fire fighting methods during the nineteenth century is covered in detail.

The book constitutes an interesting and instructive review of the New York Fire Department from its inception to date.

Chief Galvin Dead

Chief J. Milton Galvin of the Naugatuck, Conn., Fire Department died at St. Mary's Hospital in Waterbury recently after an illness of three weeks. Chief Galvin was thirty-three years of age and was the youngest Chief in the history of that Connecticut city.

Chief J. M. Galvin

Chief Galvin was taken ill following a stubborn fire at the Duffy Hotel in Naugatuck and died after an emergency operation. Through his activity as a member of the Fire Department, he was named Chief on May 14, 1934. He held the office annually until 1937, when the State Legislature passed a bill making the berth a permanent one.

Chief Galvin was deeply interested in the Naugatuck Fire Department and in improving it. During his term, several new pieces of apparatus were purchased. Early in January of this year, he took the leading part in preventing the complete destruction of the Central House and did much work in fighting the Duffy Hotel blaze.

THOMAS F. MAGNER.

Locomotives Aid Firemen

Two railroad locomotives supplied volunteer firemen with water to battle a $100,000 blaze at nearby Lucasville, Ohio. The fire, third in two weeks destroyed a feed and flour mill and warehouse containing a quantity of fertilizer and spring farm supplies.

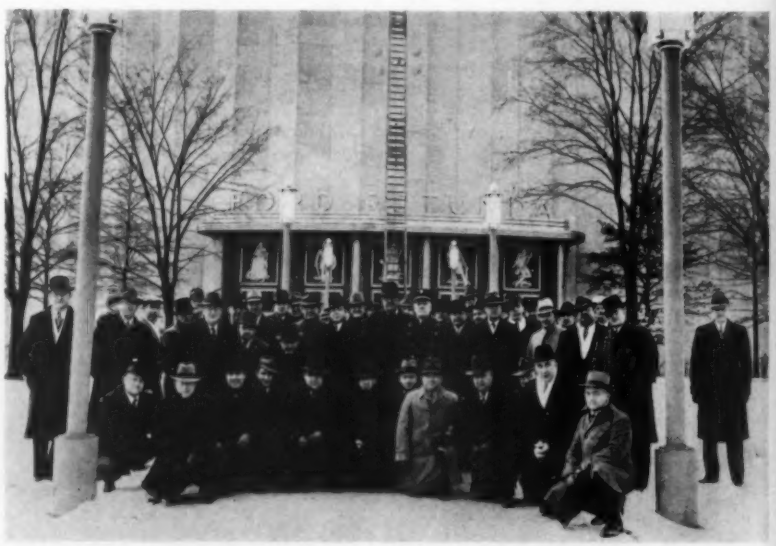
Hampered by a lack of an adequate water supply, Lucasville firemen placed pumper hoses in the tanks of two Norfolk and Western Engines in a futile attempt to extinguish the blaze. Each tank was said to contain more than 6,000 gallons.

Michigan Chiefs Hold Meeting

The Southeastern Michigan Fire Chiefs met in Dearborn, Mich., during the early part of January. The usual election of officers followed a luncheon.

Chief Chovan, of Grosse Pointe Park, was elected President to succeed Chief Albert Jaeger; Chief Hiscock, Port Huron, First Vice-President, and Chief Don Post, Ferndale, Secretary-Treasurer.

Following the elections, members and guests motored by bus on a sightseeing trip by way of Greenfield Village to the Ford Foundation building project.. Here a demonstration was given with the recently delivered 100-foot all steel aerial truck. The trip ended with an inspection of a recently completed Fire Station. A tour was made through the station house which has facilities for men and apparatus all on the ground floor.



Group Picture of the Members and Guests of the Southeastern Michigan Fire Chiefs at the Ladder Demonstration

Progress in Training Program

(*Continued from page* 160)

in mutual aid practices. Wherever departments of a given area maintain a policy of mutual aid among themselves, the services of a zone school officer instructor are available for the particular group.

4. Local classes, confined to the members of a single department, are conducted upon request by the chief of the department. Drill and a study of local fire hazards constitute work in such classes. Zone school staff instructors are assigned to these classes.

5. Assistance to the Chief in matters such as inventory, purchase of equipment, and training programs is rendered upon an individual basis when requested. Zone school staff instructors are assigned.

Both the army and navy have had noncommissioned officers, in charge of fire fighting in government military reservations, in membership in zone school classes. Massachusetts zone school staff members have been stimulated and helped by work similar in adjoining states. During 1938-1939, fourteen zone classes were conducted with a total enrollment of 368 men. Special classes were conducted at approximately 48 towns and villages with a total enrollment of about 1,512 men.

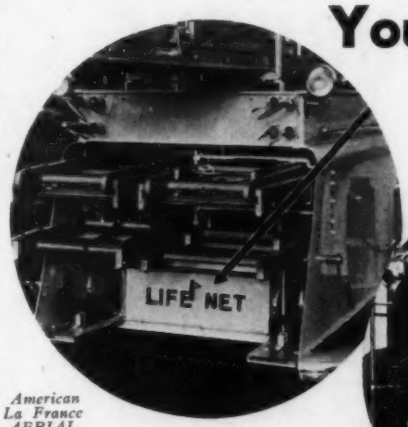
To date five thousand certificates for completion of units of instruction in the zone school areas have been issued to firemen in 332 of the 355 Massachusetts cities and towns. In the main, the service has centered in the towns of the state where adequate training is not available.

New "Siren" For Chief Trombley

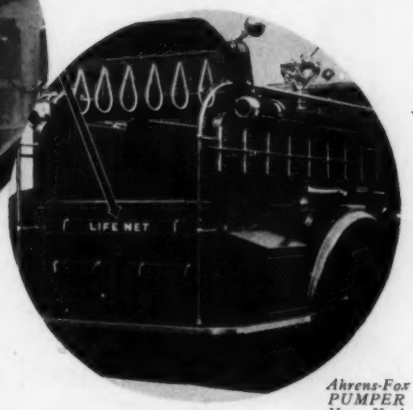
As President of the Sault Winter Carnival and Sports Association, sponsor of the third annual Upper Peninsula Winter Carnival, held at Sault Ste. Marie, Mich., Chief Trombley "stole the show." The Sault Fire Chief brought the four day ice festival to an appropriate close as he donned his skates to do an impromptu number after the finale of the ice revue. He performed with Joan Perkins, who is one of Canada's most spectacular skaters.

Chief Trombley Skates and Fights Fire With Equal Ability

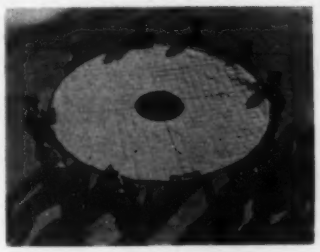
These are the Compartments Your New Trucks Should Have



American La France AERIAL Union City, N. J.



Ahrens-Fox PUMPER New York World's Fair



The 1940 Quarter-Fold Atlas Life Net

—and this is the Net that Should Go in those Compartments . . . . . .

ATLAS NETS

Off these trucks are speeding . . . onto the field of action . . . fully PREPARED to save those lives that may be trapped by smoke and flames and left stranded at windows and on roofs . . . beyond the safe reach of ladders. They are READY for such emergencies because they are carrying ATLAS LIFE NETS in their compartments.

But will your department be on the *Life Saving* end during such blazes? They happen! Not only in large cities but all over. Why then risk the chance of being UNPREPARED? LIFE SAVING is your first duty . . . and what better way could you meet with its needful demands . . . than by putting an ATLAS LIFE NET on your new truck?

INSIST on an ATLAS . . . it is the only net with the patented, mechanical features necessary to "safe land" those terrific impacts from great heights. Pumpers as well as Aerials have compartments to store Atlas Nets; include it in your new apparatus specifications . . . then you too can speed to the field of action knowing that your department is ready for LIFE SAVING.

ATLAS

ATLAS FIRE EQUIPMENT COMPANY

26 WARREN STREET NEW YORK

FOREHANDED FIRE-FIGHTING ...with BUCKEYE

Fig. 946—Fog Tip

Fig. 934—Single Hydrant Gate Valve

Buckeye Fire Fighting Equipment is designed from the Fireman's viewpoint, rather than the manufacturer's. It is a thoroughly practical line.

There is a complete line of shut-off nozzles. They *will not leak*. There is a size and type for *any* fire department.

Buckeye Exhaust Whistles sound above the heaviest traffic roar and clear the way for you.

ROTO-RAYS have three powerful revolving red lights that compel attention.

MOTO-RAY sweeps danger out of your way with the wide-sweeping motion of the red beam.

Send for complete details on all Buckeye Fire-Fighting Equipment.

BUCKEYE IRON & BRASS WORKS
324 East Third Street, Dayton, Ohio

BUCKEYE
Shut-off Nozzles · Roto-Rays · Whistles

Fig. 930—Junior Type Roto-Rays

Fig. 937 Heavy Duty Exhaust Whistle

Fig. 900—2½" Shut-Off Nozzle

Fig. 950—Moto-Ray

YOUR BADGE OF HONOR

Something more than a decoration . . . an insignia of courage and unselfish devotion to duty. That badge should be worthy of its place on your uniform . . . let it radiate quality and your pride in wearing it. BRAXMAR has been making badges for more than 60 years.

C. G. BRAXMAR CO., 242 West 55th Street, New York

BRAXMAR BADGES
Standard for Over Sixty Years

CAIRNS

CHIEF'S COAT

Here's "class" combined with serviceability—big value for any chief. Army duck is the material—unbleached, undyed, full strength—lined with waterproof rubberized cloth. Double yoke, corduroy collar, knitted wristlets, snap-and-ring fasteners—roomy, comfortable, and real protection. . . . Write for Catalog 229, describing the coat and the CAIRNS QUALITY line of firemen's personal equipment — including CAIRNS HELMETS, "regulation" throughout the country.

CAIRNS & BROTHER
444 LAFAYETTE ST. NEW YORK
Founded in 1836

FALSE ALARMS

"We missed a bucket after that last dance, and, by golly, I'd swear she wuz there."

OVERHANG

Of course, when he joined the volunteers he was a much different man than he is today. Then he was young, spry and straight as a willow. With the years, the willow term became very much strained because of the front and rear protuberances. But in spite of the years, he still retained his interest in the department.

When the boys went to the capital for the state convention, he went with them. He returned with them on the sleeper. In the morning he was much surprised to see a red lantern hung from the green drapery of his berth. At first he suspected a prank, but to be sure, he called over the Pullman porter.

"George, why is that red lantern hanging from my berth?"

"Sorry, sir," said George, "them's rules. The book says that you should hang up a red lantern when the rear end of the sleeper is exposed."

A student makes his bed and has to lie in it; an instructor makes his bunk and has to lie out of it.

TOO BAD

"Frequent water keeps you from getting stiff in the joints," said the Department's Doctor.

"Yes," says Smokey, "but some of the joints don't serve water."

COURTEOUS

Instructor (taking up exam papers): "Why the quotation marks on the exam paper?"

"Courtesy to the man on my left," replied the student.

GUSHES FROM A FIRE PLUG

Here on my hum drum tail I squat,
Musing and dreaming and going to pot.
Why must I sit here day after day,
Shrinking from canines that come my way?
Oh, how I long for the sound of a siren;
Oh, how I long for the sight of a fire 'n stuff. . . .
Hush little hydrant you've gushed enuff.

The average man seems able to detect a rattle in his car quicker than one in his head.

Mechanic: "How did you puncture this tire?"

Driver: "Ran over a milk bottle."

Mechanic: "Didn't you see it in time?"

Driver: "No, the kid had it under his coat."

The press is quite colorful these days, reviewing the yellow peril, the red menace, and the blue laws.

WHAT ARE WE WAITING FOR?

A millionaire, advancing in years, invited his sons, daughters, and in-laws to his home for dinner. "Children," he said, "I'm getting on in years and as yet I have no grandchild. I would like very much to have one to comfort me in my old age, so I've decided to give a million dollars to the first couple that presents me with a grandchild."

He bowed his head to say grace. When he looked up again the table was deserted.

Man (trying to report a fire on the telephone) "The name is Zander! Zander! No, Zander! Z! Z! NO! not C. Listen ABCDEFGHIJKLMNOPQRST UVWXYZ!

COME ALONG HOSEY — IT'S GETTING SO A FELLOW CANT HAVE ANY PRIVACY AROUND THIS TOWN ——— WE'll MAKE THE PLUG ON 42ND ST.
FIRST WATER
By Jones
Ft. Scott Fire Dept.
Recruit Man

1940 Fire Losses Up

Fire losses for February, as estimated by the National Board of Underwriters, were $34,410,250, or an increase of about five per cent over the total losses for February, 1939. This is the highest total since 1933 and, in fact, the highest total for any month since March, 1933, with the single exception of January of this year.

The aggregate of $70,670,900 for the first two months of 1940 is twenty-four per cent more than for the corresponding aggregate for last year. This is also the first time since 1933 that the total for the two months has been above $60,000,000.

Canadian Fire Marshals to Meet

The annual meeting of the Association of Canadian Fire Marshals will be held in Quebec City on May 14 and 15. This will be followed by the annual meeting of the Dominion Fire Prevention Association.

Heavy Fumes Fell Firemen

One of the toughest small fires that the New York Fire Department has handled in recent years occurred in a shoe store on Forty-second Street containing women's shoes. The shoes, which had been treated with cellulose nitrate, gave off large quantities of pungent gases and heavy smoke. This necessitated the use of a smoke ejector to draw the smoke out of the premises.

A first aid treatment station was established in a nearby store to treat nearly ten firemen who were overcome by the fumes. Although the fire was confined to one store, the firemen had a difficult time because of the gases and smoke. It was necessary to chop a hole in a solid brick wall in the rear of the store to provide proper ventilation. The damage was estimated at about $100,000.

Deputy Chief Taubert Stands Ready With His Gas Mask

Smoke Ejector Is Shown in Operation at the Shoe Store Fire

Plaque Presented to Chief Wells for Fifty Years' Service

The above handsome plaque was presented to Chief H. B. Wells on completion of fifty years of service in the Newberry, S. C., Fire Department, the majority of which he has served as Chief. This presentation was made at a Testimonial Banquet given in honor of Chief Wells by the Chamber of Commerce Commission.

Fire Destroys Old Hotel

The Beardsley Hotel, one of the landmarks of Winsted, Conn., was completely destroyed by one of the worst fires experienced by Winsted in half a century. Although nineteen persons were in the building when the fire was discovered. All but two were rescued.

By the time that the alarm was sent in, the fire had gained much headway. People on the upper stories were unable to escape by the stairways and had to wait for the local firemen before being taken out of the burning building. The city's sixty-five foot ladder was used to good advantage in removing the occupants. Winds sent sparks showering over a large area of the business district. Several roof fires ignited by embers were soon extinguished.

During the height of the blaze, aid was summoned from Norfolk, Conn., and a company of men under Chief J. H. Griffin responded.

It was generally agreed that an excellent stop had been made under the existing conditions.

THOMAS F. MAGNER.

Pay Tribute To Fire Chiefs

Under the direction of Chief Michael DeLisa of the Long Branch, N. J., Fire Department, tribute was paid, in a very impressive manner, to the fifty-five former Chiefs of the Volunteer Department, twenty-eight of whom are living and twenty-seven of whom are dead. Over 150 firemen and guest were present to honor the department Chiefs.

The living Chiefs were introduced by Assistant Chief T. VanDyke, while an impressive roll-call for the deceased leaders was conducted. A feature of the service was the attendance of the oldest living department Chief, Forrest Green, who served in '98.

H. S. Joyner Dead

H. S. Joyner, former member of the Atlanta, Ga., Fire Department, died recently at his home at the age of fifty-two years. Widely known as "Cap" Joyner, he was connected with the Department for more than twenty-three years. He gave up active service in 1937 after suffering a partial stroke. Since that time his health has been fairly good. His father was the late W. R. Joyner who was Chief of the Department for twenty-four years, and later Mayor of that city.

PROGRESSIVE FIRE CHIEFS RECOMMEND USE OF

Shuredry SALVAGE COVERS

We have in our files many letters from chiefs of fire departments who have been recognized for outstanding achievement. These progressive men acknowledge that 75% of all fire losses are due to water damage and tell how they are bettering their records through the use of SHUREDRY SALVAGE COVERS and efficient drill for the men in their use.

Let us help you make a better showing for your department by giving you full information on the latest improvements in salvage work.

Write today to our office nearest you.

Reduce
WATER DAMAGE
&
INSURANCE RATES

Fulton Bag & Cotton Mills
Manufacturers Since 1870
ATLANTA ST. LOUIS DALLAS NEW YORK
MINNEAPOLIS NEW ORLEANS KANSAS CITY KAN.

FIREMAN'S NEW SAFETY COAT MEETS WITH GREAT APPROVAL

MANY CITIES ADOPT MIDWESTERN COAT

The new Midwestern Safety Coat recently introduced has met with instant success because Fire Chiefs, Firemen, and Safety Boards quickly saw its adoption meant a big decrease in bad accidents.

The picture tells much of the reason for the success of this Midwestern Coat. Firemen can be seen on dark nights—through fog, and smoke. Fewer men will be knocked off ladders and buildings by heavy hose streams . . . will be more easily found in fallen debris.

Midwestern has developed a new exclusive rubber cloth in which the white stripe is molded in. It is rubberized as a part of the material and is not sewed in or glued on.

Another great feature is the famous Midwestern Safety snap that can be instantly fastened or unfastened with one hand.

Write for Catalog

U. S. Pat. No. 1944475
Canadian Pat. No. 345601

Note Chiefs:
Write for Folder
No. 9922 today.

MIDWESTERN MANUFACTURING CO.
Mackinaw, Illinois
Manufacturers of a complete line of firemen's quality clothing.

RECOGNIZED LEADERSHIP

THE

FEDERAL VERTICAL

SIREN

The Faithful Guardian of Lives and Homes

Positive Protection Enduring Dependability

WRITE FOR BULLETIN 63

FEDERAL ELECTRIC CO., INC.
8702 SOUTH STATE STREET CHICAGO, ILLINOIS

Give Your Firemen Freedom of Action!

#1600 FUMEGARD FACE MASK

Look at the illustration at the left. That's all there is to the new #1600 Fumegard Face Mask—the simplest, lightest, most compact gas mask protection on the market. Safeguards against smoke, noxious gases (except carbon monoxide), refrigerants, etc. Has sturdy, all-rubber gas mask type face piece, with large shatterproof, non-fogging lenses—directly attached to metal canister containing ¾ lb. of absorbents. Flutter exhaust valve removes exhaled air. Convenient, comfortable, quick to put on. The #1600 Fumeguard is a real mask—at real savings for your budget. Order one. Examine it—test it!

PULMOSAN SAFETY EQUIPMENT CORP.

Dept. FE · 176 Johnson Street · Brooklyn, N. Y.

NO BULKY STRAPS, HOSE or CHEST CANISTER

$10.00 F.O.B. Brooklyn, N. Y.

Postage prepaid in U. S. if payment accompanies your order.

AMERICAN-MARSH PUMPS

World's largest pump manufacturers building fire pumps Pumps--and pumps only--since 1873

Dear Mr. Fire Chief:

Selecting a new fire pump is a tough job. You are held responsible for your recommendation, and there are many reliable fire pumps on the market today. You cannot go wrong, however, if you suggest buying one of our Barton-American **Front Mounted or Midship Mounted** Pumps - because we not only sell an up-to-date fire pump, but give you

HIGHER PRESSURES AT LOWER ENGINE SPEED

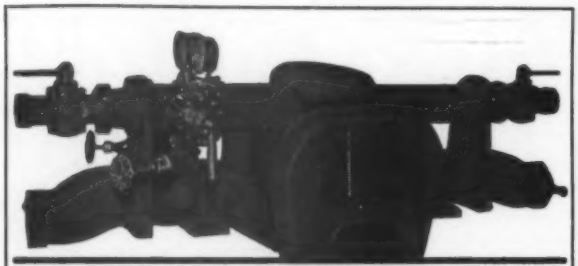
the advantage of which you will readily appreciate.

We shall be glad to give you any desired information. Write us for bulletins and specifications covering our complete line.

Thank you for your attention.

Yours very truly,

AMERICAN-MARSH PUMPS, INC., Battle Creek, Michigan



NORTHERN PUMP COMPANY

ESTABLISHED 1907

MINNEAPOLIS, MINN.

EDDY

Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.

Waterford, N. Y.

James B. Clow & Sons, Chicago Agents

WATEROUS

FIRE PUMPS

A complete line of dependable rotary, single-stage and series-parallel centrifugal fire pumps. Built to high quality specifications.

Established 1886

WATEROUS COMPANY, ST. PAUL

Valuable Information

All the manufacturers you will find represented in our advertising pages have interesting and valuable data about their equipment which is yours for the asking. When writing be sure to mention FIRE ENGINEERING.

Convention Dates

April 17-20—ARIZONA STATE FIREMEN'S ASSOCIATION. Annual Convention, Phoenix. Secretary, H. W. Reggin, Box 813, Prescott, Ariz.

May—National FIRE PROTECTION ASSOCIATION. Annual Convention. Atlantic City, N. J. Secretary, Hovey T. Freeman, Providence, R. I.

May 8—DEL-MAR-VA VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Milton, Del. Secretary, George Mayer, Jr., Easton, Md.

May 8-10—GEORGIA STATE FIRE COLLEGE. Annual Fire College, Atlanta. Director, Harry Phillips, 166 Atlanta St., S. W., Atlanta, Ga.

*May 13-15—NEW MEXICO STATE FIREMEN'S ASSOCIATION. Annual Convention, Hobbs, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque.

May 14—WEST TEXAS FIREMEN'S AND FIRE MARSHAL'S ASSOCIATION. Meets at Munday, Tex. Secretary, E. C. Pruitt, Olney, Tex.

May 20-22—NEW YORK STATE FIRE CHIEFS' ASSOCIATION. Annual Meeting, Poughkeepsie, N. Y. Secretary, Chief Chris W. Noll, Poughkeepsie, N. Y.

May 20-22—OKLAHOMA STATE FIREMEN'S ASSOCIATION. Annual Convention, Clinton, Okla. Secretary-Treasurer, Charles Siemp, 1701 N. E. 63rd Street, Oklahoma City, Okla.

May 21-24—IOWA FIRE SCHOOL, 16th Annual Fire School, Iowa State College, Ames, Ia. Director of College, Prof. Lindon J. Murphy, University.

May 23—IOWA FIRE CHIEFS' ASSOCIATION. Annual Convention, Ames, Ia. Secretary, L. R. Morris, Ames, Ia.

May 25—IOWA FIRE CHIEFS' ASSOCIATION. 12th Annual Meeting, Ames, Ia. Secretary-Treasurer, Chief L. R. Morris, Ames.

May 27-29, 1940 (tentative)—EASTERN ASSOCIATION OF FIRE CHIEFS. Annual Convention, Wilmington, Del. Secretary, Charles E. Clark, Wayne, Pa.

June 6-8—EASTERN FIRE CHIEFS' ASSOCIATION. Annual Conference, Hotel Du Pont, Wilmington, Del. Secretary, Charles E. Clark, Box 217, Wayne, Pa.

*June 10-11—MISSOURI VALLEY ASSOCIATION OF FIRE CHIEFS. 6th Annual Convention, Sioux Faces, S. D. Secretary-Treasurer, Ray Tiller, Waterloo, Ia.

June 10-12—MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION. Meeting at Virginia, Minn. Secretary, Fred Pfaender, New Ulm, Minn.

June 11—STATE FIREMEN'S AND FIRE MARSHAL'S ASSOCIATION OF TEXAS. Annual Convention, Houston, Tex. Secretary, Olin Culberson, Edna, Tex.

June 11-14—ILLINOIS FIRE COLLEGE. 16th Annual Fire College, Illinois Firemen's Association, University of Illinois, Champaign-Urbana, Ill. Prof. L. H. Provine, Director of School. Roy W. Alsip, Champaign-Urbana, Secretary.

June 17-19—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. 13th Annual Convention, Memphis, Tenn. Secretary, Walter W. Stevens, Anniston, Ala.

*June 18-20—GREAT LAKES ASSOCIATION. Annual Meeting in conjunction with the Ohio State Fire Chiefs' Association, Deshler Hotel, Columbus, Ohio. R. E. Mottesheard, Dearborn, Mich.

June 18-21—PURDUE STATE FIRE SCHOOL. Fire School Meeting, Lafayette, Ind. Assistant Director, Emmett Cox, Indianapolis, Ind.

June 19—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Bryan, Ohio. Secretary, J. W. Gardner, Ashland.

June 25-27—NEW ENGLAND FIRE CHIEFS' ASSOCIATION. Eighteenth Annual Convention, The Balsams, Dixville Notch, N. H. Secretary, John W. Hearn, Watertown, Mass.

June 26—ROCKLAND COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Twenty-Eighth Annual Convention, Haverstraw, N. Y.

June 27-29—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. Fifty-First Annual Convention, Haverstraw, N. Y.

June—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. Annual Convention, Darlington, S. C. Secretary, Paul E. Welburn, Union, S. C.

July 9 — STATE ASSOCIATION OF FIRE CHIEFS OF MAINE. Meeting, Scarboro, Me. Secretary-Treasurer, C. W. Bowker, South Paris, Me.

July 15-17—WISCONSIN STATE FIRE CHIEFS' ASSOCIATION. Annual Meeting, Sturgenbay. Secretary, A. U. Simon, Lady Smith, Wis.

July 16-17—MARITIME FIRE CHIEFS' ASSOCIATION. Annual Convention, Campbellton, N. B. Secretary, Charles A. Cunningham, St. John, N. B.

July 17-20—WASHINGTON STATE ASSOCIATION OF FIRE CHIEFS AND WASHINGTON STATE FIREMEN'S ASSOCIATION. Annual Meeting and 10th Annual Fire School, Port Angeles, Wash. Secretary, W. A. Groce, 716 Mohawk Building, Spokane, Wash.

July 22-26—WEST VIRGINIA FIRE SERVICE EXTENSION SCHOOL. Tenth Annual State Fire School, West Virginia University, Morgantown, W. Va. Director G. R. Spindler, 121 Mechanical Hall, Morgantown, W. Va.

July—WASHINGTON STATE FIREMEN'S ASSOCIATION. Annual Convention, Port Angeles, Wash. Secretary, Hugh M. Leslie, Auburn, Wasn.

*July 31-Aug. 3—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 47th Annual Convention, Merchants' Exchange Building, San Francisco, Cal. Secretary, J. W. Stevens, San Francisco, Cal.

Aug.—WEST VIRGINIA FIREMEN'S ASSOCIATION. Annual Convention, New Martinsville, W. Va. Secretary, H. G. Fridinger, Martinsburg, W. Va.

Aug.—UTAH STATE FIREMEN'S ASSOCIATION. Annual Convention, Logan, Utah. Secretary, John J. Creedon, Bingham Canyon, Utah.

Aug.—CONNECTICUT STATE FIREMEN'S ASSOCIATION. Annual Convention, Danbury, Conn. Secretary, D. W. Harford, South Norwalk, Conn.

Aug. 5-6—NEW YORK STATE FIRE FIGHTERS' ASSOCIATION. Annual Convention, Schenectady, N. Y. Secretary, Frank A. Emden, 1403 Mather Ave., Utica, N. Y.

Aug. 4-5 — OHIO STATE VOLUNTEER FIREMEN'S ASSOCIATION. 2nd Annual Convention, Sandy Beach, Akron, Ohio. Secretary, Chief Sid Wellock, Coventry Township.

Aug. 5-8—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Sixty-eighth Annual Conference, Davenport Hotel, Spokane, Wash. Secretary, James J. Mulcahey, Yonkers, N. Y.

Aug. 12-17—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. Annual Meeting, Salisbury, N. C. Secretary, John L. Miller, Concord, N. C.

Aug. 12-17—VIRGINIA STATE FIREMEN'S ASSOCIATION. Annual Convention, Bristol, Va. Secretary, R. B. Barker, Newport News, Va.

Aug. 13.—FIRE CHIEFS' ASSOCIATION OF VIRGINIA. Annual Convention, Bristol, Va. Secretary, S. Herman Dennis, 1238 Chesapeake Ave., South Norfolk, Va.

Aug. 18-21—NEW YORK STATE FREMEN'S ASSOCIATION. Twenty-first Annual Convention, Olean, N. Y. Secretary-Treasurer, Arthur Bleau, Bunn and Chestnut Sts., Amsterdam, N. Y.

Aug. 20-23 — FIREMEN'S ASSOCIATION, STATE OF NEW YORK. Annual Convention, Dunkirk, N. Y. Secretary, Fred A. Davis, 140 Broadway, Fort Edwards, N. Y.

Aug. 29-31—WEST VIRGINIA FIREMEN'S ASSOCIATION. Annual Convention, New Martinsville, W. Va. Secretary, H. G. Fridinger, Martinsburg, W. Va.

Sept.—NEW JERSEY STATE FIREMEN'S ASSOCIATION. Annual Convention, Atlantic City, N. J. Secretary, Evan F. Benners, 24 Branford Pl., Newark, N. J.

Sept. — LOUISIANA STATE FIREMEN'S ASSOCIATION. Meeting at Thibodaux. Secretary, Edward Wright, Hocima, La.

Sept. 3-6—MARYLAND SHORT COURSE FOR VOLUNTEER FIREMEN. Annual School at the University of Maryland, College Park, Md. Director, Chief J. W. Just, College Park, Md.

Sept. 3-5—KENTUCKY FIREMEN'S ASSOCIATION. Meeting at Bowling Green. Secretary, V. A. Beam, 2221 W. Broadway, Louisville, Ky.

Sept. 11-12 — DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. Twentieth Annual Convention, Smyrna, Del. Secretary, Warren W. Pettyjohn, Dover, Del.

Sept. 16-17—TEMISKAMING FIREMEN'S ASSOCIATION. Annual Convention, New Liskeard, Ont. Secretary, F. E. Thompson, New Liskeard, Ont.

Sept. 17-18—IOWA FIREMEN'S ASSOCIATION. Meeting at Emmetsburg, Ia. Secretary, Paul A. Soener, Independence, Ia.

Sept. 23-26—CALIFORNIA STATE FIREMEN'S ASSOCIATION. Annual Meeting, San Jose, Cal. Secretary-Treasurer, Harry E. Strasser, 2046 Oregon Ave., Long Beach, Cal.

Oct.—FIRE CHIEFS OF MAINE. Quarterly Meeting at York Harbor, Me. Secretary-Treasurer, Charles W. Bowker, South Paris, Me.

Oct.—ARKANSAS STATE FIREMEN'S ASSOCIATION. Meeting at Russellville. Secretary, H. D. Compton, Little Rock, Ark.

Oct. 1.—FIREMEN'S ASSOCIATION, STATE OF PENNSYLVANIA. Annual Meeting, Lewiston, Pa. Secretary, Charles E. Clark, Wayne, Pa.

Oct. 4—WALWORTH COUNTY FIRE OFFICERS' ASSOCIATION. Annual Meeting, East Troy, Wis. Secretary, C. A. Foster, Lake Geneva, Wis.

Oct. 8—STATE ASSOCIATION OF FIRE CHIEFS OF MAINE. Meeting, York Harbor, Me. Secretary-Treasurer, C. W. Bowker, South Paris, Me.

*The notices marked with an asterisk are either appearing for the first time or have been changed since the preceding issue.

Triple Combination for Bourne, Mass.

The past fall, a new triple combination engine was placed in service in Bourne, Mass. The truck carries a 500-gpm rotary pump, a 150-gallon booster tank, thirty-five-foot extension ladder, a fourteen-foot roof ladder, four ten-foot lengths of six-inch suction hose, and a full complement of tools and nozzles.

The booster tank hose is carried on a reel at the rear of the truck. The unit has a fog and solid stream combination nozzle.

New Triple Combination Delivered to Bourne, Mass.

CLASSIFIED ADVERTISING

Bids Wanted, For Sale and Help Wanted $5 *per inch. Position Wanted,* $2.50 *per inch.*

For Sale

One 750 gal. American La France Pumper, and One Hook and Ladder American-LaFrance Truck; excellent condition. For pictures and description write Windber Fire Company No. 1, Windber, Pa.

Manufacturers' Announcements

Research Facilities Offered

One of the trends in the fire service in recent years has been the increasing emphasis placed on life saving. Formerly the principal objective of the fire department was the protection of property and first aid activities were usually limited to treatment on the scene of the fire of smoke poisoning and minor cuts and burns.

"One of the most serious problems that has confronted the first aid group" states Wm. Stephenson, Manager of the E. & J. Company of New York, "has been the increase in asphyxial deaths from carbon monoxide, drowning, electric shock and other causes, until today it has reached an alarming total of 50,000 deaths annually.

"When one considers that this annual toll of life is one and a half times deaths by automobile accidents, fifteen times deaths from diptheria and forty times those from typhoid fever, it becomes apparent how important it is that the firemen, who, due to fast apparatus having the right of way twenty-four hours a day, usually arrive at the scene of the accident ahead of the doctor, be fully equipped with the latest mechanical aids known to medical science for the treatment of these cases. The Jay Stevens Disaster Unit, which is a small hospital on wheels, is an excellent example of the trend in this direction.

"The E. & J. Company of New York has been facing this problem for years by maintaining constant research facilities for the study of all problems related to respiratory failure. Special studies have included the problems of smoke poisoning, carbon monoxide poisoning and drowning, which is practically always complicated by the presence of froth in the victim's air passages.

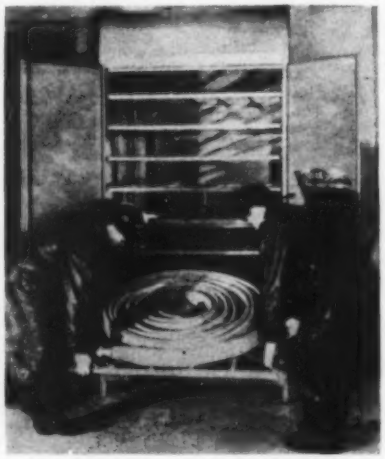
"Officials and first-aiders of fire departments are invited to make full use of these facilities in solving any of their problems involving asphyxia."

Circul-Air Hose Dryer

With the introduction of their new Circul-Air Fire Hose Dryer, the Circul-Air Corporation, 303 Dwight Building, Jackson, Mich., points out that it is no longer necessary to build hose towers or drying racks in the Fire Station.

The principle of Circul-Air is to induct air into its all-steel cabinet at room temperature, warm it slowly to a temperature of about ninety degrees, and circulate the air through the loosely coiled hose carried on trays. Direct heat is never in contact with the hose because the drying of the hose depends upon the warm air circulating continually.

It is claimed that the Circul-Air drys the cotton jackets in four or five hours, without drying the rubber, by retaining



Hose Being Placed in Dryer

enough moisture in the lining to protect the rubber. The hose is not harmed even if left for longer than the specified period.

The cabinets are made in capacities for drying 500 feet or 800 feet of 2½-inch double jacket hose, and yet occupy less floor than a tower. It is said to take up only four square feet of floor space and it can be operated by one man.

Announces Complete Net

The Superior Fire Equipment Company, of 72 Park Place, New York, recently announced a new net which is built complete by the company. In the past only replacement units were furnished which were fitted to rims of nets already in service and which required replacement.

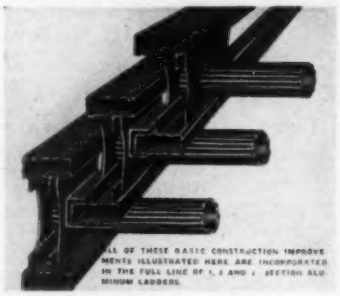
The Superior net is a rope net of spider-web design, four-strand hemp ropes being employed. The ropes of the net are attached to a chrome molybdenum steel frame through the medium of direct pull shock absorbers. A heavy cotton duck quilt is fastened by an elastic cord to the face of the net to improve landing quality.

Series 525-A Duo-Safety Ladders

The advantages of the rectangular tubular rail construction as used by the Duo-Safety Ladder Corporation in the construction of their new line of metal ladders (Duralumin) has been quite evident, but especially so has the use of the tubular rail worked to advantage in their new Series 525-A three section ladders," states the company.

During recent years, the trend towards three section ladders has been pronounced, brought on, of course, by the necessity of using shorter wheelbase trucks with less overhang on ladders. Many three section ladders were not successful because of their bulkiness, weight, restricted climbing space, and excessive banking height requirements.

In Series 525-A, the Duo-Safety Lad-



Duo-Safety Ladders

der Corporation has developed a three section ladder which has overcome these previous shortcomings in three section ladders.

Reference to the accompanying cut shows a unique arrangement of overlapping or "Space Saving" of rails, and increased climbing space between the rails. Likewise a saving in height is accomplished by lowering the level of the rungs in the ladder sections so as to generally depress the thickness or banking height of the ladders when not in use. The tubular rail section as used in Series 525-A ladders is designed to eliminate sag in the ladder when it is loaded in the extended position. The tubular rail construction practically eliminates torsion, or weaving, when ladder is in the extended position.

"In Series 525-A three section ladders, through the use of two paralel truss plates, rigidity between rails and rungs is increased, thereby eliminating "parallelograming" or looseness between the rungs and side rails. Likewise, the method of welding the rungs to the outside plates prevents the rungs from becoming loose, and in addition, the internal expanding of the tubes around the inside truss plate prevents spreading of the ladder," the company adds.

Langher President of Akron Brass

At the annual meeting of the stockholders of the Akron Brass Manufacturing Company, Wooster, Ohio, Mr. G. S.

President G. S. Langher

Langher was elected President of the company. Mr. Langher has been engaged with fire fighting sales work for the past twenty-two years.

An Unusually Handy Auxiliary *for*

Port Monmouth
New Jersey

SPECIFICATIONS:

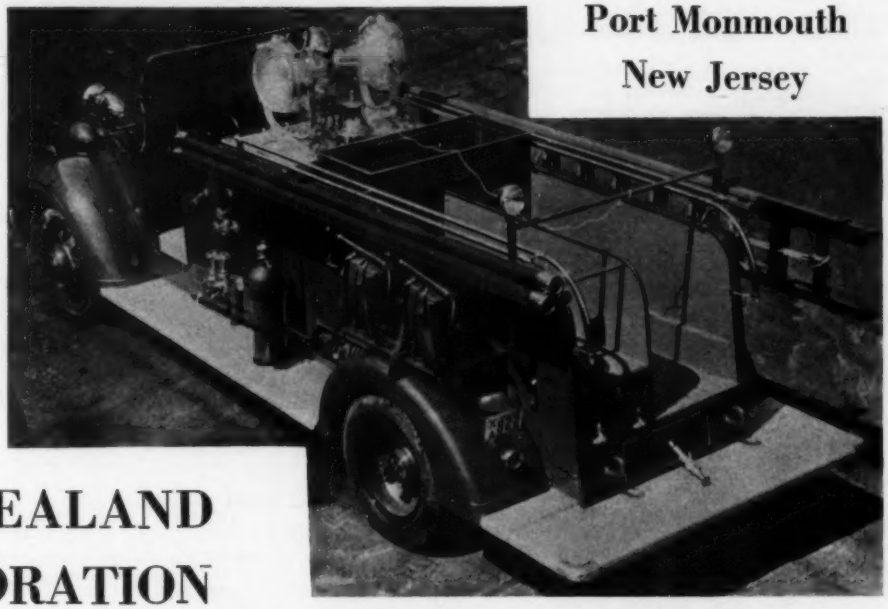
100 gallon pump — suction and discharge on both sides.

200 gallon booster tank.

1500 watt generator, power take-off permanently mounted for floodlighting.

Miscellaneous equipment—Indian fire pumps, ladders, portable floodlighting.

Units, 600 feet of cable on reel for floodlighting units.



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SPECIFY HALE

—because your Hale Rotary or Centrifugal will be thoroughly engineered into your pumping engine.

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HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

Best Battery Protection You Can Get

General Electric Tungar Battery Chargers have earned a widespread reputation for efficiency and dependability in the fire fighting field.

Regardless of the way you want to charge your apparatus batteries, there's a Tungar Charger to do the job; in position, or out of the truck, your batteries will be "right up to snuff" if you let a G-E Tungar Charger take care of them.

Here you see the Tungar one-battery Chargers, the 5-ampere and the 6-ampere. Also—the Tungar 6-battery Charger.

Write for a G-E Tungar Full-line catalog now. Section A-0864, Appliance and Merchandise Department, General Electric Company, Bridgeport, Connecticut.

GENERAL ELECTRIC

Landlord Gets Six Months for Firetrap Deaths

The first sentence was recently imposed in New York County under the law that holds a landlord responsible for deaths in tenements where the fireproofing provisions of the multiple dwelling law have not been complied with.

Four persons were killed in a fire January 5, 1939, in one of the old-law tenements controlled by Beacon Arms Incorporated. An investigation, after the fire, revealed that the tenement had no proper rear fire escape, no fire retarding material in the halls, no equipment to make doors close automatically, no proper bulkheading of the roof, and improper glass apartment doors. The landlord might have eliminated these violations of the multiple dwelling law by spending about $1,100; he had failed to do so and was indicted on manslaughter charges under the criminal negligence provisions of the statute.

To Be Made Honorary Chief

For a fifty year period Chief Albert F. Hildreth has been in the service of the Hollis, N. H., Fire Department. When this period ends next May, he will be made Honorary Fire Chief. For many years, besides offering his services to the Fire Department, Chief Hildreth has provided the town's telephone service, and served in other capacities, notably that of Town Clerk.

Ruins of Fire at Middletown

Electro-Static Spark Causes Large Fire

A spark from a workman's hand touched off a fire in one of the large factory buildings of the Russell Manufacturing Company at Middletown, Conn., causing a loss of about $500,000. The Russell Company, the city's largest industry, employs about 1,500 persons and manufactures brake linings, factory belts, and cartridge belts. An employee said that friction built up an electrostatic charge on his hands and caused a spark just as he was dipping a fabric belting into a vat of gasoline.

The blaze, which started in a treating room where various sorts of fabrics were coated with a gasoline and rubber mixture, fed on the inflammable substance and, within a few minutes, spread to every corner of the two-story, concrete structure, which contained 28,000 square feet of floor space. All of the employees in the building made their way to safety through a dense curtain of smoke. The only two casualties, two employees, were severely burned about the arms and forearms when they beat out the flames on their clothing.

More than 100 firemen from local and nearby companies under the command of Fire Chief Michael J. Lawton, Middletown, fought the fire for nearly three hours. It was not until the roof and floor collapsed that the blaze was brought under control. It was one of the most stubborn fires in the history of this city.

Upon the arrival of the fire companies, flames were leaping 200 feet in the air and fear was held that a conflagration would result. Residents for blocks around fled from their homes.

THOMAS F. MAGNER.

Pension Problem Plagues Syracuse, N. Y.

Pensions in Syracuse Fire and Police Departments have been held up, and members of the departments have been warned against resignations of able bodied men under the twenty year half-pay clause, in view of the fact that the pension funds are running low. A reduction in pensions may be the final result.

Reports have been circulating that the administration plans to set a minimum age retirement limit of fifty-five to sixty years.

that is what more and more

FIRE CHIEFS

are saying every day

From every section of the country

QUAKER Fire Hose

is finding its way into more and more Fire Departments. Fire Chiefs do recognize and appreciate the value of Quaker Hose. Regardless of the size of the order, QUAKER can serve you promptly.

Multiple Jacket Hose made in four distinct and different constructions.

Get in touch with Quaker before placing your order for Fire Hose. Samples gladly furnished.

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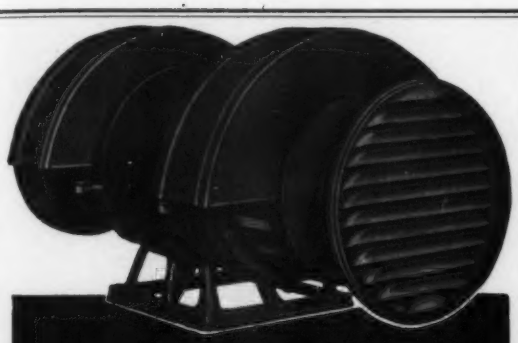

STERLING MODEL "M"

GENERAL ALARM SIREN

You Can Depend On It *ALWAYS*

Every community has need for a general alarm that will give unfailing service. Can you afford to depend on inadequate equipment, something new or of cheap quality?

Sterling's reputation for making quality sirens is world wide and dates back more than 36 years. Why experiment?

Send for Bulletin 631 which illustrates and describes the complete "Model M" system.

STERLING SIREN FIRE ALARM CO., Inc.
55 Allen Street Rochester, New York

ELK HART

34 years service in the fire field

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Prompt service Quality products

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A PARTIAL LIST OF ELKHART PRODUCTS

Shut-Off Nozzles
Controlling Nozzles
Turret Pipes
Fire Departent Extinguishers
Extinguisher Holders
Fire Truck Body Fittings
Hose House Equipment
All Types Hose Couplings
Sliding Poles, Railings and Canopies
Fog Nozzles
Hose Test Pumps
Threading Tools
Coupling Expanders
Pump and Hydrant Valves
Hose Racks and Cabinets
Siamese Connections
Underwriters' Industrial Extinguishers

Send for illustrated folder on the New Elkhart Mystery Nozzle.

ELKHART BRASS MFG. CO.
ELKHART, INDIANA

COVER'S NOD and SHAKE SMOKE MASK

Carry It in Pocket. Slip on in a Jiffy. Positive Protection to Eyes Against Smoke and saves the lungs.

Why get sick?

Price $48 per Dozen

Upon receipt of $4.00 one will be forwarded as a sample. postpaid.

H. S. COVER
Station A, SOUTH BEND, IND.

WIDE MARGIN OF SAFETY WITH •

Republic FIRE HOSE

● One of the major objectives in the manufacture of Republic Fire Hose is to eliminate all factors of chance . . . to anticipate the most violent service conditions and build Fire Hose with physical properties capable of handling the situation. Accomplishment of this aim starts with skilled selection and ruthless testing of materials to be used. Actual construction is scientifically controlled, from beginning to end, for conformance to unusally high specification standards. Eventually, the completed hose structure is ready for a series of laboratory tests which are far more exacting than any conditions encountered in actual use . . . giving final proof of the wide margin of safety built into Republic Fire Hose. Exclusive Provar Process, permanent treatment against mildew and rot, is an additional contribution to more dependable service. REPUBLIC RUBBER DIVISION OF LEE RUBBER AND TIRE CORPORATION, YOUNGSTOWN, OHIO

REPUBLIC RUBBER

Fire Destroys Palatial Home

Aggravated by an explosion of accumulated gases on the third floor, fire swept through a $185,000 residence in Troy, Ohio, causing about $100,000 damage. The fire, believed to have started in the basement, spread through the elevator shaft to the roof. Almost all of the tile roof was blown off above the ballroom, and flames shot thirty feet into the air as a result of the explosion. It required nearly sixty firemen battling for more than four hours before the flames were completely extinguished.

Fire Which Destroyed Residence in Troy, Ohio

Chief Higgins Interviewing One of the Winners of the Poster Contest

Fire Prevention In Television

J. J. Higgins, Chief of Schenectady, N. Y., Fire Department recently gave a fire prevention talk over television radio. In his talk he pointed out that a prevention campaign is carried on the year around in Schenectady, and reaches its peak during the Fire Prevention Week in the fall. The per capita fire loss in Schenectady was the lowest since 1920, at one dollar and six cents. This gave Schenectady twenty-sixth place in the National Fire Waste Contest, and first place in the State of New York. In addition to the talk, awards were made to children for fire prevention posters.

Retired Police and Firemen's Association Formed

Conducting an active social program and rapidly increasing its membership, the All-States Association of Retired Policemen and Firemen, with headquarters at Orlando, Fla., is now an established organiation.

The plan to form the Association was conceived by a group of retired policemen and firemen who came from northern cities to settle after "doing their bit" in the fire service. They realized the need of an organization devoted exclusively to the interests of these men who had served their communities in these two vocations and who were yet bound together by fraternal and social interests.

Business meetings are held bi-monthly and the members gather to exchange ideas on a friendly and social basis for the betterment of the organization. The Association has been instrumental in bringing men together who were formerly associated in the same department and who, upon retirement, migrated to Florida to make their future homes there. The officers are Frank J. Stabile, President, Orlando; George O. Diffin, Vice-President, Winter Park; and Frank J. Bandre, Secretary-Treasurer, Winter Park.

THOMAS F. MAGNER.

Acme's New

All Purpose Gas Mask

protects the Fireman against Carbon Monoxide and Other Gases—and also against Suffocation by Smoke.

Smoke Suffocation will not happen to the Fireman wearing this improved mask. Does your present equipment give this protection? You can tell in a minute. Send for the Acme Canister Smoke Tester, which will be mailed postpaid with instructions. FREE.

Five points of great importance that distinguish the Acme All Purpose Mask from all others:

1. Complete protection against Lethal Gases and Smoke Suffocation.
2. Smoke cannot be breathed through this newest development! This includes smoke of finest particles. Firemen must be protected against Suffocation by Smoke. (Send for Acme "Canister Smoke Tester", offered free . . . test your present canisters and feel better if they do give protection against Smoke Suffocation.)
3. Longer Life of Canister: The quality and quantity used provide definitely for long service.
4. Full Vision for Wearer: Acme's first major contribution in better Gas Masks—In Acme Masks, Firemen can SEE.
5. A harmless Warning Agent notifies the wearer, unmistakably, when carbon-monoxide protection begins to weaken and he must get fresh air.

Send for Folder M401, which gives full description. Address as below.

ACME

PROTECTION EQUIPMENT CO., INC.
3604 Liberty Ave. - Pittsburgh, Pa.

ANOTHER AKRON ACHIEVEMENT

A NEW

JUNIOR MULTIVERSAL NOZZLE

A new JUNIOR MULTIVERSAL NOZZLE—patterned after the TIME-TESTED REGULAR AKRON MULTIVERSAL NOZZLE, worthy of the name—FEATURING

PORTABILITY—Approximate weight 35 lbs., occupies 10" x 10" space, mounted on running board of apparatus.

DURABILITY—Bronze Composition throughout—Turret rotates on life-time ball bearings.

FLEXIBILITY—Complete circular rotation coupled with 90° elevation swing.

USEFULNESS—Handles one hose line direct or two hose lines with siamese—operates under high pressure with 1⅛", 1¼", 1½" discharge nozzle tips furnished as standard equipment.

ADAPTABILITY—May be operated as a ground pipe (as shown); as Apparatus Deck Pipe, or from window ledge (window ledge attachment furnished as standard equipment).

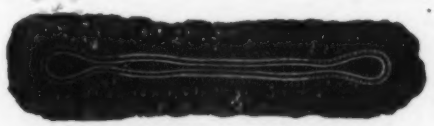
PRACTICABILITY—Stands alone—relieving firemen for other duties and diminishes discomfort and hazards to firemen.

COMPLETENESS—Complete, compact unit furnished with running board mounting plate, ground stand, window ledge attachment and 1⅛", 1¼", 1½" nozzle discharge tips as standard equipment.

AKRON BRASS MFG. COMPANY, INC.

MANUFACTURERS OF "AMERICA'S BEST MADE" FIRE HOSE COUPLINGS, NOZZLES, AND FIRE FIGHTING EQUIPMENT

WOOSTER, OHIO, U. S. A.



This is the new LIGHT WEIGHT BI-LATERAL FIRE HOSE

This hose will stand 900 pounds pressure and weighs but 45 pounds to the section uncoupled.

Here's the new DROP-FORGED rocker lug coupling (not cast bronze), with the swivel-protecting feature.

This coupling will stand several expansions and can be used over and over again, saving your city at least 20c to 30c per foot on future hose purchases.

When in the market, let us show you that we can give you the best service obtainable for the least money.

BI-LATERAL FIRE HOSE COMPANY

20 N. Wacker Drive Chicago, Illinois

SUPERIOR

MODERN SAFETY EQUIPMENT

A TRUE ECONOMY

BECAUSE

THEY ARE SAFE IN EVERY RESPECT

LIFE NETS LADDER BELTS
TRAINING NETS STRUCTURES
LIFE SIZE DUMMIES

SUPERIOR FIRE EQPT. CO.

72-76 PARK PLACE, NEW YORK

HEWITT-GUTTA PERCHA

FIRE HOSE

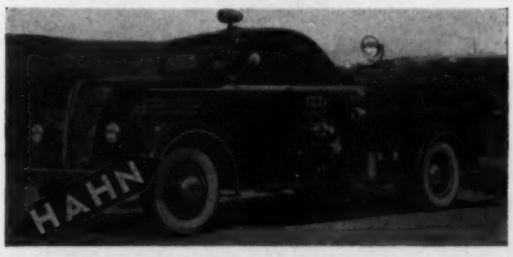
A complete line, including
Wax Treated - Solid Multiple Woven
AND
Single and Double Jacket Hose

Manufactured by

HEWITT RUBBER CORPORATION

BUFFALO, N. Y.

"Territories Available"



HAHN FIRE APPARATUS

Air-Cooled or Water-Cooled
Powered Apparatus

HAHN MOTORS, INC. HAMBURG, PA.

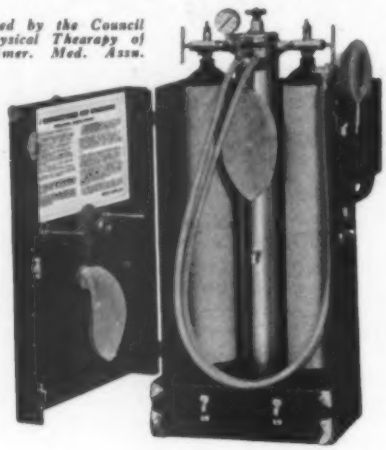
YOU CAN'T BEAT THIS COMBINATION!

Aspirator—Resuscitator—Inhalator

—3 Machines in 1—

Easy to change from one to the other and simple to operate.

Accepted by the Council on Physical Therapy of the Amer. Med. Assn.



A demonstration will not obligate you to buy. Write today for full particulars.

E & J Manufacturing Co., Glendale, Cal.

AUTOCAR

FIRE APPARATUS

Custom-building to meet local requirements is our Specialty. Let us bid to your exact specifications the next time you are asking for a Proposal, or write now for literature and photographs.

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THE AUTOCAR COMPANY

BOX FE, ARDMORE, PA.

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APRIL, 1940

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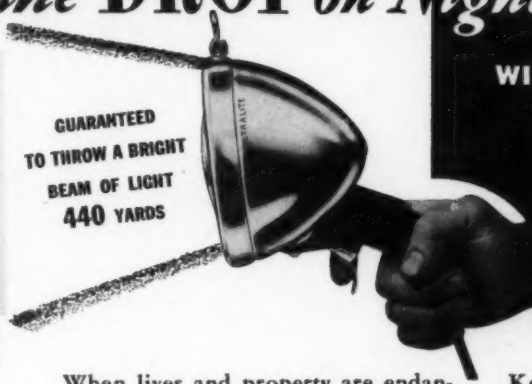
Get the "DROP" on Night Firefighting

WITH THE PISTOL GRIP

KEROTEST ULTRALITE

Pistol Grip Searchlite snaps on comfortable carrying harness when not in use.

Long-life, flat-shaped battery pack carried in harness at the back, leaving arms entirely free.



When lives and property are endangered by a night fire, don't let your firemen grope in the dark for lack of sufficient light. Equip them with the Kerotest Ultralite—the most powerful portable light outfit ever designed. Think of it—an 85,000 candlepower light at your fingertips, capable of throwing a broad light beam a quarter mile!

Designed with the unique and exclusive pistol grip, the Kerotest Ultralite is easy to handle, assures bullseye-pointing of the light beam and instant trigger-finger action at all times. You will find it a boon to safer night firefighting—a compact, self-contained outfit consisting of long-life, extra-duty batteries of special flat shaped design, mounted in a comfortable carrying harness. Investigate its unique features in detail. Write for particulars today.

KEROTEST

KEROTEST MANUFACTURING COMPANY
PITTSBURGH, PA.

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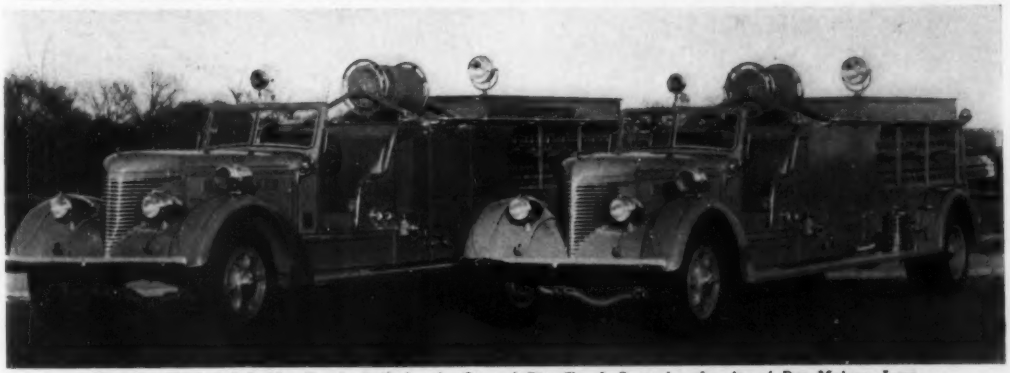
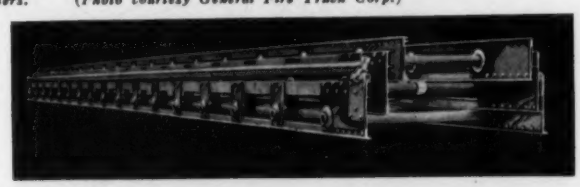
484 Feet of ALUMINUM LADDERS On these Des Moines, Iowa, Trucks



Two new Hook and Ladder Trucks built by the General Fire Truck Corp. for the city of Des Moines, Iowa. Each truck is equipped with 242 feet of Aluminum Ladders. (Photo courtesy General Fire Truck Corp.)

Because they weigh only half as much as ordinary ladders, Aluminum Ladders can be handled and raised faster, and with fewer men. They are stronger, and temperatures from 40 degrees below zero to 400 above do not affect their strength. They are safer because they bend, rather than break suddenly when overloaded. In addition, they can't rust, splinter or burn.

Fire Departments throughout the country are discovering these extra advantages. When ordering new trucks or replacement ladders, be sure to specify Aluminum Ladders. The first cost is the last cost!



Aluminum Ladder Company

200 ADAMS STREET
TARENTUM, PA.

DOWN
DOWN
DOWN
20
10
0
10
20
30
TO 30° BELOW ZERO...
but still NO FROZEN HOSE!
When they "shot" this photo Montreal's thermometers registered thirty below zero; yet Fabric Wax and Gum Treated Fire Hose remained pliable—and helped put out this fire—there were no frozen hose lines to worry Montreal firemen—Because Fabric's Wax and Gum Treatment kept the hose jackets moisture proof—and ice-proof.
That's one reason why Montreal has over 150,000 feet of Fabric Fire Hose in service.
Representatives throughout the United States
FABRIC FIRE HOSE COMPANY
FACTORY • SANDY HOOK, CONNECTICUT